



## A STUDY ON INFORMATION AND COMMUNICATION TECHNOLOGY INFRASTRUCTURE FACILITIES IN ENGINEERING COLLEGES IN VILLUPURAM DISTRICT

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### **Abstract**

*The present study aims at analyzing the use and availability of Information Communication Technology infrastructure facilities in engineering college libraries in villupuram district area. This study traces out the Hardware specification, Software specification, Library automation, accessibility of digital library, Internet connectivity, Library website, Tele communication facilities, audio visual equipments, Specialized ICT staff, ICT strategy and policy and Barriers to usage of ICT has been analyzed and interpreted.*

**Keywords:** *ICT, Network topology, Infrastructure, Hardware, Operating System.*

### **Information Communication Technology**

Information communication technology has been one of the major factor causing changes in the field of library science which people or user can communicate, review and disseminate and used information. Today, the library science is fast changing and automation activities are picking up. There is increasing awareness of information technology and its application among information scientist / librarians.

### **Digital Library**

Unlike the incremental development of the preceding century. Telecommunication revolution of the twenty first century marks a fundamental change in direction. We are faced with the change in direction. We are faced with the challenge, and the prospect, of doing things in a totally different way. New digitalized technology is reshaping the elemental aspects of our communications systems, and we are now forced to reassess out most basic assumptions about how that system will be used to gather an distribute news. The news business is changing faster and more fundamentally than at any time since the steam – powered printing press ushered in the age of mass media almost two hundred years ago. In barely a century, communication technology has progressed form telegraph wired and crystal sets to color television and geosynchronous satellites. Soon more of such powerful technologies will transport journalism far beyond the familiar boundaries of radio, television, databases, telephones, and the printed pages. In the coming years news programming and distribution will be creatures of what are being called the new media.

### **Review of Literature**

Alemie (1998) asserts that telecommunication infrastructure remains the backbone for the application of a wide range of communication and multimedia services such as digital libraries.

Anjali Gulati (2004) has discussed the status of information and communication technologies usage in India libraries with special reference to special libraries and efforts are made by various institutions to propagate e-information products and services. The author concludes with challenges for library and information science professionals and an overview of initiatives taken by government of India.

Bayode (1996) has described ICT as the acquisition, processing, storage and dissemination of information by means of computers and other telecommunication equipment. He notes that the processing, storage and retrieval facilities are provided by computers, while telecommunications provide the facilities for the transfer or communication of data or information.

Dhanavendan, S. Mohammed Esmail, S. Nagarajan, M (2012). The digital resources available in a library play prominent role in facilitating access to the required information to the user are an expediency manner. Further one need not go to the library to make use of print formats as the digital resources can be made use of by any user through On-line access via networks or authentication methods at any time by comfortably now web-based electronic resources have become most popular tools in academic research.

Tiwari and Sahoo's (2011) conducted a survey to assess the present ICT infrastructure in University libraries of M.P and use of ICT in terms of communication facilities, collection, hardware, software, networking infrastructure, housekeeping operations, user's service and training. The paper concludes that University libraries of MP are in developing stage in its infrastructure and use of ICT. Lack of proper planning and supervision and frequent change ICT are the basic hurdles in successful development of ICT in University libraries in MP.



### Objective of the study

This study has developed the following objectives:

1. To understand the availability of ICT infrastructure in College Libraries in Villupuram District.
2. To evaluate in the ICT application in Engineering College Libraries in Villupuram district.
3. To measure the strength and weakness of the ICT capability of Engineering college sample libraries.
4. To find out availability of electronic resources in various Engineering College Libraries.
5. To find the hardware facilities among engineering college Libraries.

### Hypotheses

1. Among the sample libraries, there is no difference in national and international level network connectivity.
2. The satellite connectivity dominates most of the libraries compare to the telephone connectivity and ISDN connectivity.
3. The commercialized software packages used in most of the sample libraries.
4. There are every meager libraries possessing E-journals.
5. Few libraries provide websites access points facility.

### Research Design

The information technology would involve high degree of computerization, large volume of growth of electronic information coupled with global access to information via telecommunications infrastructure comprising of satellite communication and wireless technology. The total of the ICT helps engineering college libraries to equip themselves and change in tune with the time and technology. With the application of ICT able to provide information services to their patrons more efficiently and effectively.

### Methodology

This study is based on a survey method. The basic objective is to measure the level of integration of ICT infrastructure in Engineering College libraries in Villupuram District. A questionnaire was framed to collect the primary data. The questionnaire has been distributed to a Various Engineering college library. Out of 18 colleges, 15 have been questionnaire received back and taken for this study.

### Statement of the Problem

Information access through electronic media has a lot of impact on the library community. Almost all the librarians have been facilitated to develop new strategy for managing the ICT facilities. This study aims to analyze the various ICT infrastructures and manpower skill to establish electronic / Digital library satisfy the end users of Engineering Colleges Librarians in Villupuram District.

### Data Sources and Data Collection

In order to collect the primary data, a Questionnaire was distributed to various Engineering colleges in villupuram district. The data was collected by the interviewer the librarians in person and requesting them to fill the questionnaire. Most of them responded well and sometimes the questions have to be filled up by the researcher. Observation method wave also employed to collect data from the libraries apart from the questionnaire. The secondary data was also collected from various sources, like Annuals reports, internal reports, etc.

### Statistical Tools Applied

1. Percentage analysis
2. Performance evaluation of usage of electronic resources.

### Limitation of the Study

Among the 18 engineering college libraries. Only 15 Engineering college libraries consider for the analysis.

1. Since the questionnaire was distributed to the librarian, the user satisfaction and the level of library materials utility value could not be assessed.
2. Some of the questions like, fund provision for purchase of journals and books had not been properly revealed the study lacks in analyzing with respect to the fund utility and expectation.

**Table-1 E-Collection Building in Sample Library**

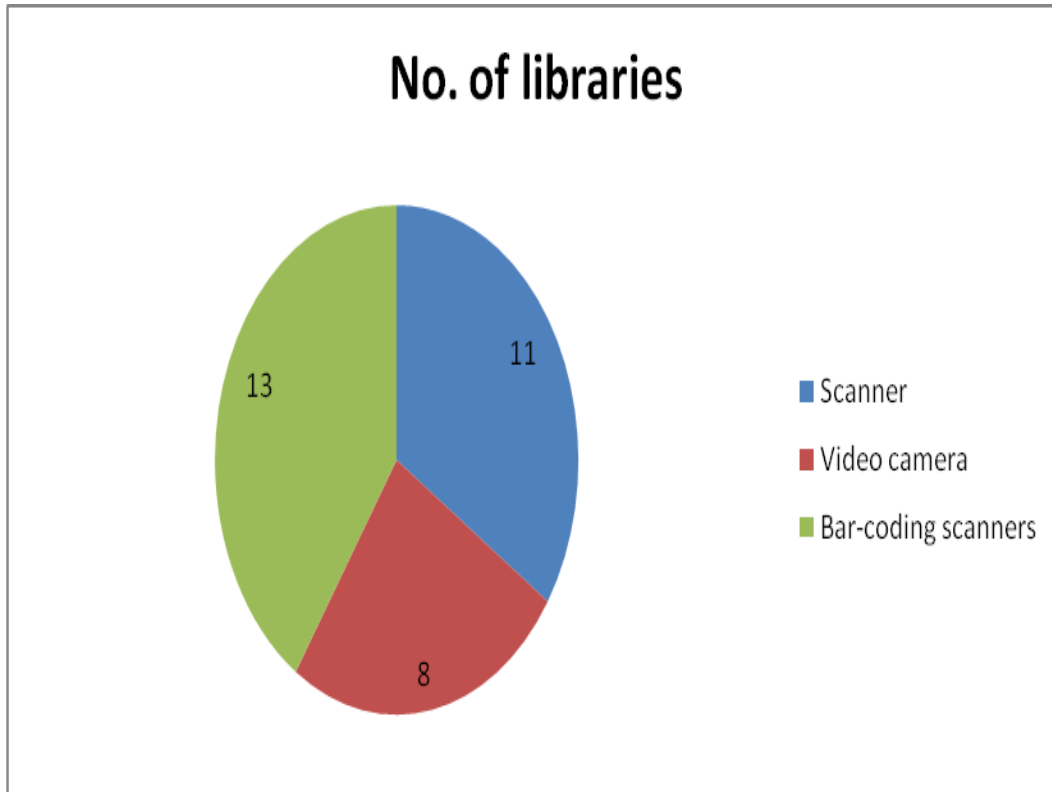
Sl. No.	1	2	3	4	5	6	7	8	Total
Collections	Cdrom	Dvd –Rom	E-Journal	E-Books	A.U.Cassete s	Video Cassetes	Micro Film	MicroFich	
Edhaya Eng. College	2500(38.9)	200(7.14)	2500(14.83)	300(2.90)	5(0.26)	130(10.07)	-	-	5635 (14.21)
MahabharathiEng. College.	300(4.67)	450(16.07)	4855(28.80)	-	-	-	-	-	5605(14.13)
VrsEng.College	21(0.32)	41(1.46)	1400(8.30)	2100(2.30)	600(31.41)	135(10.46)	-	40(100)	4337(10.93)
Dr.Paul’sEng. College	21(0.32)	51(1.82)	1500(8.89)	2000(19.33)	500(26.17)	125(9.68)	-	-	4197(10.58)
Ammai Terasa College of Eng.	22(0.34)	63(2.25)	1300(7.71)	2000(19.33)	600(31.41)	125(9.68)	-	-	4110(10.36)
SuryaEng.College	960(14.96)	-	300(1.77)	-	-	-	-	-	1260(3.17)
Maitam Eng.College.	600(9.35)	250(8.92)	700(4.15)	300(2.90)	-	-	-	-	1850(4.66)
T.S.M.Chain College of Technology	-	-	1500(8.89)	300(2.90)	-	-	-	-	1800(4.53)
A.K.T Eng.College.	311(4.84)	84(3.00)	-	-	-	-	-	-	395(0.99)
I.F.E.TCollege of Eng.	500(7.79)	300(10.71)	230(1.36)	2000(19.33)	-	175(13.56)	-	-	3205(8.08)
A.R. Eng.College	15(0.23)	46(1.64)	1500(8.89)	-	125(6.54)	-	-	-	1686(4.25)
E.S.ClgofEng.andTech	250 (3.89)	500(17.85)	300(1.77)	800(7.73)	80(4.18)	600(46.51)	-	-	2530(6.38)
Sri Aravindar Eng. College.	500(7.79)	500(17.85)	315(1.86)	200(1.93)	-	-	-	-	1515(3.82)
SrirangaPoopathi College..	200(3.11)	-	54(0.32)	15(0.14)	-	-	-	-	269(0.74)
Vedhantaha Institute of Tech.	216(3.36)	315(11.25)	400(2.37)	329(3.18)	-	-	-	-	1260(3.17)
Total	6416(16.17)	2800(7.06)	16854(42.50)	10344(26.0)	1910(4.84)	1290(3.25)	-	40(0.10)	39654(100)

Table 1 show that e-collection building sample libraries. The collection of the sample libraries are CD-ROM ,DVD-ROM,E-journals ,E-Books, Audio cassettes and Video cassettes .Among the CD-ROM collection Edhaya Engineering has highest collection (38.96%),And it is followed by Surya Engineering college (14.96%).(14.96%).In the DVD-ROM. E.S Engineering college and Sri Aravind Engineering college has highest collection (17.85%).And its followed by Mahabharathi Engineering college (16.07%).In E-journal Mahabararhi Engineering college has highest collection (28.80%) compared to other Engineering colleges. Among the E-books collection Annai terasa Engineering college, Dr. Paul Engineering college, IFET Engineering college has highest collection Annai terasa Engineering, VRS Engineering college has highest collection (31.41%).and Video cassettes E.S Engineering college has highest collection compared to other colleges. In general E-collection building in the sample libraries the Edhaya Engineering College has the highest collection (14.21%) and irrespective of the sample libraries E-Journal are the highest collection of the sample libraries.

**Table-2 Input Devices Used In Sample Libraries**

S.No.	Name of the input devices	No. of libraries	Percentage
1.	scanner	11	73.33%
2.	Video camera	08	53.33%
3.	Bar-coding scanners	13	86.66%

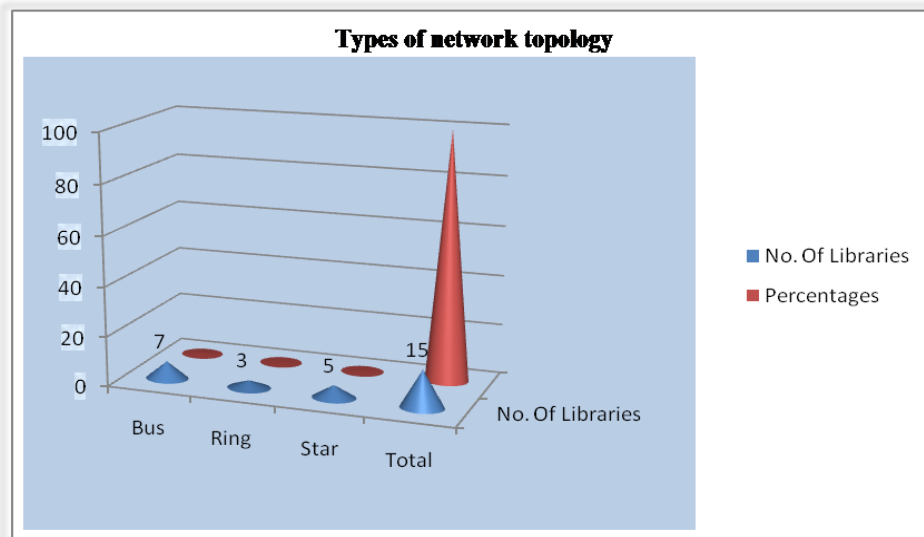
Table 2 shows that input devices used in sample libraries. 13(86.66%) of the libraries used Bar -coding scanners, 11(73.33%) of the libraries used scanner and 08(53.33%) of sample libraries used video camera. It is evident from the table that most of the libraries having Bar-coding scanner facilities to input the information.



**Table-3 Types of Network Topology**

S.No.	Types of Topology	No. of Libraries	Percentages
1.	Bus	7	46.67%
2.	Ring	3	20.00%
3.	Star	5	33.33%
	<b>Total</b>	<b>15</b>	<b>100</b>

Table 3 shows that,46.67% of sample libraries are have bus Network topology , 33.33% of libraries are have Star topology and 20% of libraries are have Ring topology . The reason may- vary depending upon the nature and distance of the cable line in the campus and the system points from the hub.

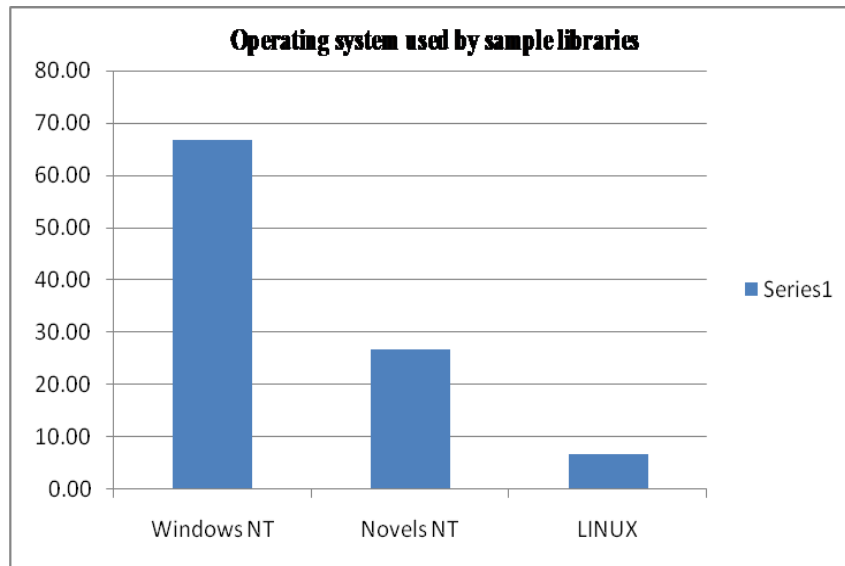


**Table-4 Operating System Used By Sample Libraries**

S.No.	Operating Systems	No. of Libraries	Percentages
1.	Windows NT	10	66.68%
2.	Novels NT	04	26.66%
3.	LINUX	01	06.66%
	<b>Total</b>	<b>15</b>	<b>100</b>

Table 4 shows that operating system used by the sample libraries. Among the sample libraries 66.68% of them are using window NT platform, 26.66% of libraries used Novels NT and 6.66% of libraries used LINUX.

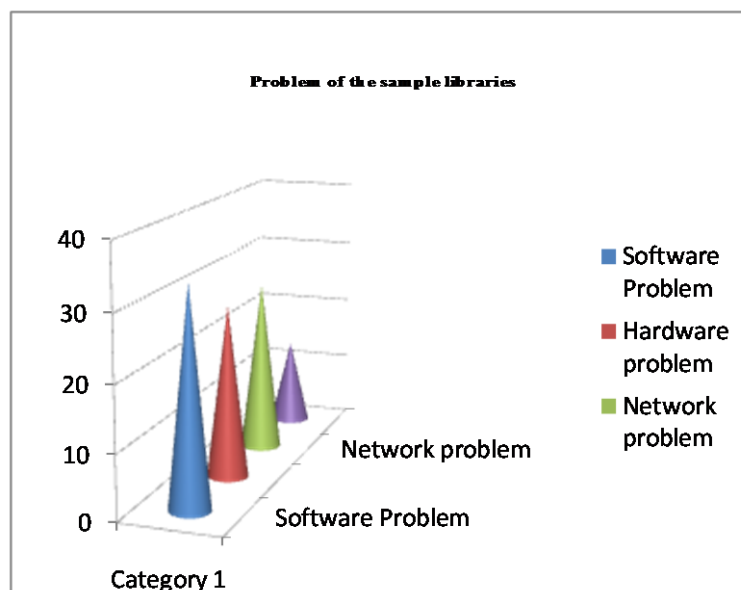
It could be understand that majority of the libraries used windows NT platform as a operating system of their libraries.



**Table-5 Problem of the Sample Libraries**

S. No	Problem based	No. of Libraries	Percentages
1.	Software Problem	05	33.35%
2.	Hardware problem	04	26.66%
3.	Network problem	04	26.66%
4.	All the above	02	13.33%
	<b>Total</b>	<b>15</b>	<b>100</b>

Table 5, it is problem based by the libraries. Software based by (33.35%) of libraries, (26.66%) libraries faced by the hardware and network problem. (13.33%) of the libraries has the entire problem. It could be seen from the above discussion more than 30% have software problem as a problem for the sample libraries





### **Findings**

1. The finding of the input device facilities shows that most of the libraries having bar-coding, scanner facilities to input the information.
2. The finding of network topology shows that most of the libraries are have bus topology.
3. The finding of operating system used by sample libraries shows that majority of the libraries used Windows NT platform as an operating system.
4. The finding of problem faced by sample libraries shows more than 30% have software problem for all the sample libraries.

### **Conclusion**

This study proved that interest in using the ICT's by the libraries taken from all sample are seemed to be slower 80% of are well established in ICT's usage. The other 20% libraries are still likely to be continued in implementing.

Most of the libraries used the pen drive, external hard disk, CD-ROM, DVD ROM, as storage devices. More than 50% of sample libraries only used Antivirus packages. Most of the libraries used telephone line as a network interface connectivity and OPAC as an access point of the libraries. Majority of the libraries used MS, SQL server as a operating system. It is concluded that most of the professional staff and technical staff should be trained in use and operating in ICTs environment and it is also suggested that INSPEC is one of the important bibliographic data base should be subscribed by the sample libraries.

### **References**

1. Alemie, L. (1998), How is information technology shaping the economy and society?', Information Development, Vol. 14, No.4, pp.181-4.
2. Anj Ali Gulati, (2004), "Use of information and communication technology in libraries and information centres: an Indian scenario", The Electronic Library, Vol. 22 N0.4, pp.335-350.
3. Bayode, D.D. (1996) "Information technology a library development in Kwara State", paper presented at the AGM of NLA, Kwara State Chapter, Ibadan, December 4.
4. Dhanavendan,S. Mohammed Esmail,S. Nagarajan,M (2012). "Access and Awareness of ICT Resources and Services in Medical College Libraries in Puducherry" Library Philosophy and Practice.
5. Tiwari and Sahoos. Infrastructure and use of ICT in University libraries of Madhya Pradesh:Librarians Views. International Journal of Information Dissemination and Technology. 2011; 1:232-238.