

# **ICT Infrastructure Facilities and Services in Autonomous Engineering College Libraries Affiliated to VTU of the Mysore Region**

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## **ABSTRACT**

*The present study examines the information on various ICT infrastructure facilities and services in autonomous engineering college libraries affiliated with VTU of the Mysore region. The current study discusses the status of engineering institutions providing library services such as traditional and electronic services and facilities like hardware, software, and web-based resources. The study found that most engineering college libraries are still in a different stage of development and most libraries have the minimum ICT infrastructure facilities for implementing ICT.*

**KEYWORDS:** ICT, ICT Hardware facilities, ICT Software facilities, ICT-Based Library Services.

## **INTRODUCTION**

Information communication technology (ICT) has emerged as an outcome of the digital convergence of computer, telecommunication, and other media communication technologies (Ramakrishagowda and Walmiki, 2009). It is the use of computing and telecommunication technologies, systems, and tools to facilitate how information is created, collected, processed, and transmitted. ICT is also used to refer to the convergence of audiovisual and telecom networks and computer networks through a single link system. There is a large economic incentive to merge telephone networks with computer network systems using a single unified system of cabling, distribution, and management. ICT is an umbrella term that includes any communication device, television, cellphone, computer and network system, and so on, as well as the various services and appliances with them such as video conferencing and distance learning.

## **DEFINITION OF ICT**

According to Ebijuwa and Anyakoha (2005) define ICT as "tools and as well as means used for collection, capture, storage, transmission and dissemination of information. The terms Information Communication Technology (ICT) are used somewhat interchangeably in LIS literature. The American Library Association (1983) defines IT as "the

application of computers and other technologies to the acquisition, organization, storage, retrieval, and dissemination of information.

Information Communication Technology opportunity for libraries to provide value-added information services and facilities and to a wide variety of ICT-based information sources to their clients. Libraries are using modern ICT to automate their core functions and implement efficient and effective cooperation and resource sharing through networks. However, for most libraries in India, the use of ICTs is largely restricted to traditional library automation, i.e. replacing manual operations by computerized methods (Rana, 2008).

The impact of ICT in all walks of life including banking services, postal services, healthcare sector, academic sector, library and information services, etc. The innovation of ICT has influenced libraries to serve better and adopt the changes. The important application of ICT in libraries is library automation or computerization which facilitates speedy operation, services, and access to and delivery of information (Mairaj and El-Hadi, 2012) ICT facilitates the libraries to provide value-added information services and access to a wide variety of digital-based information sources to their users. ICT is being used in libraries to automate their core functions and implement efficient and effective cooperation and information resource sharing through the networks. Moreover, ICT is used in libraries to implement the management information systems (MIS) and develop institutional repositories (IR) of digital local content, and digital libraries (Tiwari & Sahoo, 2013).

## **REVIEW OF LITERATURE**

### **ICT infrastructure in university libraries**

Mohd & Esmail (2013) conducted a study revealing that most libraries have the necessary infrastructure facilities to access the e-resources in 18 engineering colleges affiliated to North Maharashtra University. The study revealed that among three district engineering college libraries the Jalgaon district engineering college libraries have the majority number of computes and Writer facilities 19(44.19%) and the libraries are also equipped with software 30 (38.46%) and network facilities 15(30.61%) to access. Find out the study that all the engineering college libraries of North Maharashtra University have subscriptions to bibliographic database e-resources.

Dhanavandan, Esmail & Nagarajan (2012) have surveyed on Information Communication Technology (ICT) infrastructure facilities in self-financing engineering college libraries in Tamil Nadu. The study found that 87.14% of libraries have client and workstation facilities. Among them IBM, HP, and Intel dominate. The majority of the libraries do not have CD ROM servers on their libraries have CD Tower facilities in their respective environment. 95 % use the library application in their libraries. More than 50% of libraries use digital library software.

The study of Praveen Kumar (2012) on the ICT-based resources in the engineering college libraries in Haryana show that most of the users prefer electronic resources to other ICT-related services.

Barik, Das, and Ramesh (2011) mentioned that the ICT-based services provided by the private Engineering and Management colleges of Orissa are very poor and not able to meet the needs of the users at their end due to various constraints relating to infrastructure, manpower, lack of ICT equipment and overall financial problems.

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Rajput et al (2007) surveyed the internet resources and services of the Institute of Engineering & Science, Indore (India), and the findings in the paper “Internet Resources and Services in Institute of Engineering & Science, IPS Academy Indore: An Exploratory Study”. Large numbers of users were dissatisfied with the infrastructure facilities available in IES, specifically in terms of hardware facilities.

### **OBJECTIVES OF THE STUDY**

- ✓ To identify the hardware infrastructure facilities in autonomous engineering college libraries affiliated to VTU of the Mysore region.
- ✓ To identify the availability of software infrastructure facilities in the autonomous engineering college libraries.
- ✓ To identify the availability of internet facilities in the engineering college libraries
- ✓ To identify the availability of web-based service facilities in the engineering college libraries.

### **METHODOLOGY**

The survey method was used to collect primary data on this research investigation. The data is collected through a structured questionnaire that was prepared based on the objectives of the study. These questionnaires were distributed to the library professionals of selected seven autonomous engineering colleges affiliated to VTU of the Mysore region. A total of seven questionnaires were distributed among the librarians of engineering college libraries under the study. The collected data were tabulated and analyzed with the applications of simple statistical tools. The list of seven autonomous engineering colleges affiliated to VTU, of the Mysore region is as follows:

- ✓ Malnad College of Engineering, Hassan.
- ✓ PES College of Engineering, Mandya.
- ✓ Nitte Mahalinga Adyanthaya Memorial Institute of Technology, Nitte.
- ✓ The National Institute of Engineering, Mysuru
- ✓ St. Joseph College of Engineering, Mangalore.
- ✓ Vidya Vardhaka College of Engineering, Mysuru.
- ✓ Sahyadri College of Engineering & Management, Mangalore.

### **RESULT AND DISCUSSION**

Collected data has been analyzed with the use of simple statistical techniques, Data has been presented in the form of a table using MS Excel software.

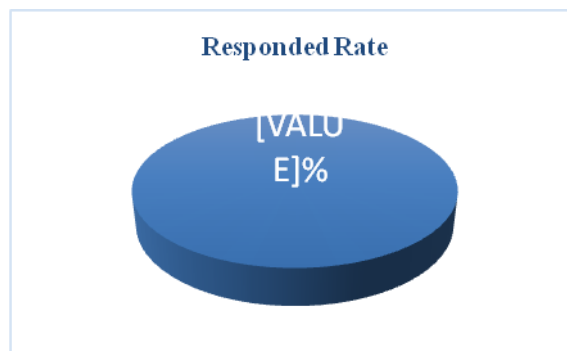
List Autonomous Engineering colleges affiliated to VTU of the of Mysore Region.

<b>Sl. No.</b>	<b>List of Autonomous Engineering Colleges</b>	<b>Year of Establishment</b>	<b>Location</b>
1	Malnad College of Engineering, Hassan	1960	Hassan
2	PES College of Engineering, Mandya	1962	Mandya
3	Nitte Mahalinga Adyanthaya Memorial Institute of Technology, Nitte	1986	Mangalore
4	The National Institute of Engineering, Mysuru	1946	Mysuru

5	St. Joseph College of Engineering, Mangalore	2002	Mangalore
6	Vidya Vardhak College of Engineering, Mysuru	1949	Mysuru
7	Sahyadri College of Engineering & Management, Mangalore	2008	Mangalore

**Response Rate:**

Questionnaires have been distributed to seven Engineering colleges in the Mysore region, and all of them have filled out and responded to the questionnaires. The percentage of respondent rate is 7(100%) which is represented graphically in Figure 1.



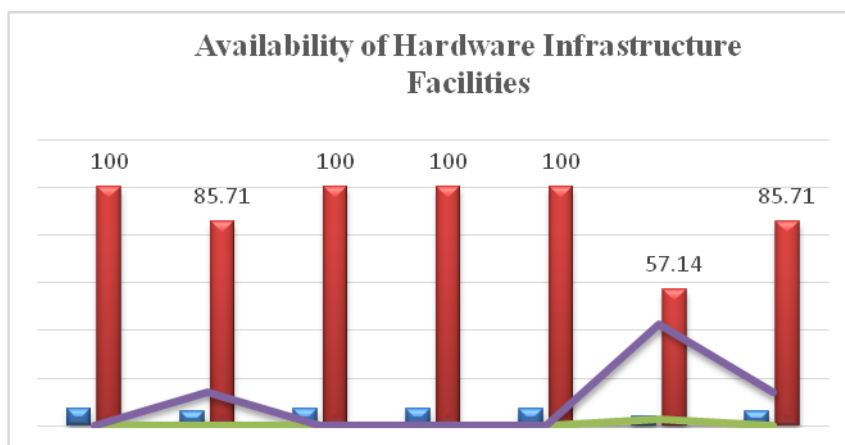
**Table 1:** Availability of Hardware Infrastructure Facilities.

The hardware infrastructure facility in the autonomous engineering college libraries is measured by taking different parameters that have been shown in Table 1.

Description	No. of Engineering College Libraries (N=7)	Percentage
Desktops	7	100
Laptops	6	85.71
Servers	7	100
Printers	7	100
Scanners	7	100
Projectors	4	57.14
CCTVs	6	85.71

Table 1 shows that all (100%) of autonomous engineering college libraries have Desktops, Server, Printer, and Scanners, followed by 6 (85.71%) colleges that have Laptops and CCTVs and 4 (57.14%) libraries that have Projector.

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**Table 2:** Availability of Software Facilities

The study shows that software facilities in autonomous engineering college libraries affiliated with VTU of the Mysore region, The investigator has attempted to collect data relating to software for the autonomous engineering College libraries. The collected data from the respondents have been summarized in Table 2.

Sl. No.	Software Facilities	No. of Engineering College Libraries (N=7)	%
1	Library Automation Software.	7	100.00
2	Antivirus Software	6	85.71
3	Reference Management Software	4	57.14
4	Digital Library Software	4	57.14
5	Remote Access	2	28.57
6	Content Management Software	2	28.57
7	Database Management Software	1	14.28
8	Learning Management Software	1	14.28

Table 2 shows that all 7 (100%) of autonomous engineering college libraries have library automation software followed by 6 (85.71%) of libraries that have antivirus software while 4 (57.14%) of each have a Digital Library Software and Reference Management Software and 2 (28.57%) of each library have Content Management Software and Remote Access Software. 1 (14.28%) Each engineering college has data management software and learning management software.

**Table 3:** Availability of Internet Facility

Sl. No.	Internet	No. of Engineering College Libraries (N=7)	%
1	Internet facilities in the library	7	100.00

The investigator has attempted to collect data relating to the availability of Internet facilities. Table 3. Show that 7 (100%) of the autonomous engineering college libraries have internet connectivity.

**Table 4:** Types of Internet Connection.

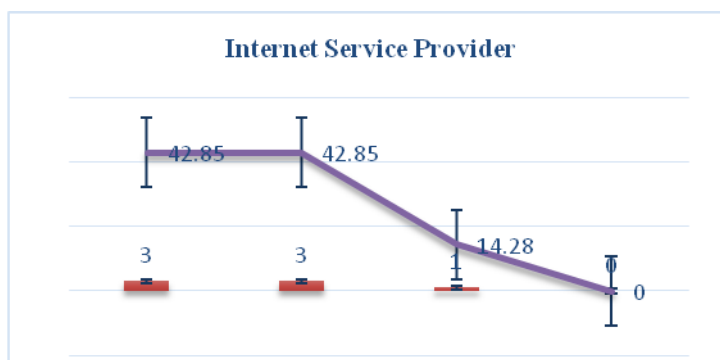
Sl. No.	Type of Internet connection	No. of Engineering College Libraries (N=7)	%
1	DSL	3	42.85
2	Wireless	2	28.27
3	Cellular	1	14.28
4	Other	1	14.28

Table 4. show that 3 (42.85%) of libraries have been using DSL connection, followed by 2 (287%) of libraries using wireless connection while 1 (14.28%) of college libraries have been using cellular and other connections.

**Table 5:** Internet Service Providers for Engineering College Libraries

Sl. No.	Internet Service Providers	No. of Engineering College Libraries (N=7)	%
1	Airtel	3	42.85
2	Reliance Jio	3	42.85
3	BSNL	1	14.28
4	Other	0	00.00

Concerning the subscription to Internet service providers in the engineering college libraries, 3 (42.85%) each of the libraries have subscribed to Airtel & Reliance Jio, and 1 library (14.28%) is subscribed to the BSNL connection



**Table 6:** Web-Based Services in Libraries

Sl. No.	Description	No. of Engineering College Libraries (N=7)	%
1	Web Based Service	7	100.00

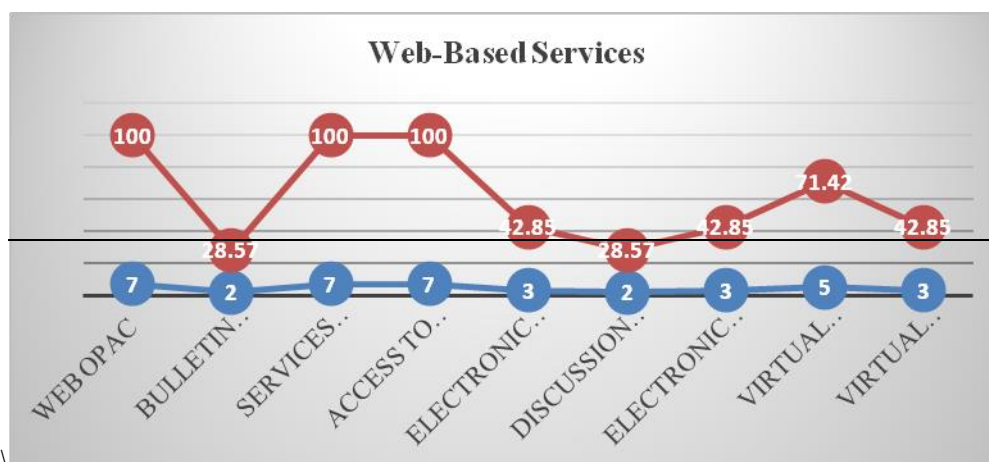
Table shows that all 7 (100%) college libraries have proving access to web-based services.

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**Table 7:** Web-Based Service Facilities by Autonomous Engineering College.

Sl. No.	Web-Based Services	No. of Engineering College Libraries (N=7)	%
1	Web OPAC	7	100.00
2	Services through the Library Webpage	7	100.00
3	Access to Database	7	100.00
4	Virtual Library Tour	5	71.42
5	Virtual Reference Desk	3	42.85
6	Electronic Current Awareness Service	3	42.85
7	Electronic SDI Service (E-SDI)	3	42.85
8	Discussion Forums	2	28.57
9	Bulletin Board Services	2	28.57

Table 7 depicts that out of 9 web-based services identified by the investigator, all 7 (100%) of libraries provide 3 web-based services such as Web OPAC, access to databases, and services through library web pages. Further, 5 (71.42%) libraries facilitate Virtual Library Tour while 3 (42.85%) of each library provide Electronic Current Awareness Service (E-CAS), Electronic SDI Service (E-SDI), and Virtual Reference Desk facility and 2 (28.57%) of libraries provide Bulletin Board services and Discussion Forums.



**CONCLUSION AND RECOMMENDATION**

ICT plays a main role in the development of knowledge centers. Today, the success of the library is essentially hooked into the foremost effective use and implementation of recent technology in libraries. The study reveals that the majority of the autonomous engineering college libraries affiliated to VTU of the Mysore region have different stages of development of ICT and most of the libraries have minimum infrastructure facilities for the implementation of ICT. The suggestion of the Study is college authority should provide proper support to the library professionals in the application of ICT and provide permission to attend ICT workshops/training programs to reinforce their technical skills for the correct implementation of ICT and providing effective and efficient autonomous engineering college libraries in the Mysore region.

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