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Assessment of Library Resources and Services in Engineering Colleges in India: A Study

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***Abstract:** Digital library and digital services are important component of any library, as role of library has changed to great extent with the advancement of information technology, network technology and communication technology. This study aims to report the digital library facilities and services available at engineering college libraries in Karnataka. It showcases the perception/opinion of librarians about digital library and digital services. From study it is clear that librarians have provided digital library and digital services and have positive opinion on the renowned role of digital library in library and information centers.*

Keyword: Digital Library, Digital Services, Opinion of Librarians, Impact of Digital library, Digital Infrastructure

1. Introduction

Engineering college libraries work to influence user community performance by providing information resources and service. Service is the key component of any library system, as the whole purpose of the library is to serve users with the right information at the right time in the right format. For many years, most of the libraries and the librarians have been using printed materials made available to users by the systematic efforts of publishers and booksellers. With the rapid succession and the subsequent widespread use of computing systems (desktop, laptop, palmtop, iPad, mobile devices, etc.) and networking systems (LAN, optical, Wi-Fi, cloud, etc.), there is a remarkable expansion in the scope of the library system and these technologies have transformed the way

libraries are collecting, organizing, storing and disseminating information, which was not possible in the past.

2. Engineering Education in Karnataka

The state of Karnataka has emerged as one of the IT states of India and has radically changed the field of Information Technology, economy and industry. This has given rise to large number of engineering institutions/colleges in Karnataka. Both the government and private sectors have contributed to the establishment of engineering institutions. Consequently, there has been a rise in the number of people engaged in training and education, research in the technical field in order to fulfill the potential human resource need to bust up and support the IT industry. During 1862, first school of engineering was established at Bangalore to impart technical education in Karnataka, which was then affiliated to the Madras University. Then to train students for lower services and Public Works Department, technical institution was established under the auspices of the Civil and Military Station at Bangalore, by Sri Rao Bahadur Arcot Narayanaswamy Mudaliar in the year 1873. Further Industrial School at Hassan in 1889 and engineering school at Mysore in 1892 were established. There after many engineering colleges were established (Thimmana Gouda & Premchand 2010; Puttaswamy, R M & Krishnamurthy 2014).

4. Objectives of the Study

Objectives are the guiding principles of any study. The main objectives of the study are:

- To find out the provision of digital library and digital services by the engineering college libraries under the study.
- To obtain the opinion of librarians of the engineering colleges, about digital library and digital services.

5. Methodology

The study has adopted the quantitative and qualitative research method and employed the questionnaire and interview as a tool for data collection. The sample for the study was comprised of one hundred and ninety one (191) colleges which were affiliated to Visvesvaraya Technological University (VTU), Karnataka. The colleges established

before the year 2012 are included in the survey. Among the sample, the authors are able to collect 150 responses with a percentage of 78.53%.

6. Analysis and Interpretation

Educational Qualification of the Sample

Educational qualification is an important criterion to assess their intellectual levels in an individual and is directly related to their professional growth. Higher education helps in enhancing technical knowledge and skills, also it is a factor which influences better understanding of the subject, and there by helps librarians to perform their role effectively. In order to know the qualification level of respondents, data was collected and presented in figure 1.

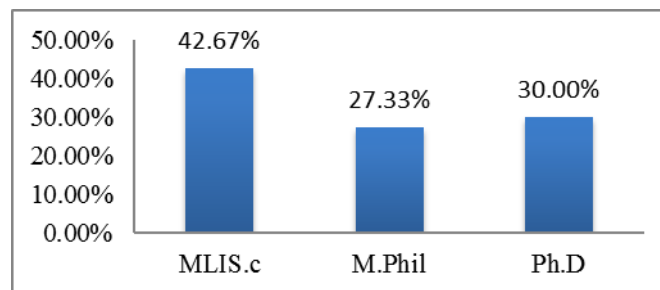


Figure 1: Distribution of Respondent by Educational Qualification

Most of the librarians (42%) possessed a MLI.Sc degree and 30% had either registered for Ph.D. or completed the Ph.D. degree. It represents that most of the librarians had given importance for higher education.

Additional IT Qualification

Libraries, in general, have started using technology to provide easy access to all the resources and services of the library. Having an additional IT qualification would enable the librarians to improve and modernize the conventional services and provide new services. So the data on the additional qualification was collected and shown in Table 1. From the study it is clear that 44% of the respondents had undertaken additional course such as PGDLAN, PGDNET and training in computer science. It indicates that nearly 50% of librarians have shown interest in formal IT training, which is most essential in effective management of library resources and services.

Table 1: Additional IT Qualification of the Respondents

Additional Course	No. of Responses	Percentage
Yes	66	44.00
No	84	56.00

Experience

Experience in a particular designation helps to build leadership qualities, deal with problems, to make wise decisions etc. It also teaches valuable lessons to plan, design and render effective information services to clients. Hence, to manage the library effectively, librarians experience is essential. So data was collected on experience of respondents and was depicted that 49.33% of the librarians had less than 10 years of experience and a meager percentage (4.67%) had more than 30 years of experience (Figure 2). This shows that many young librarians are working in engineering college libraries.

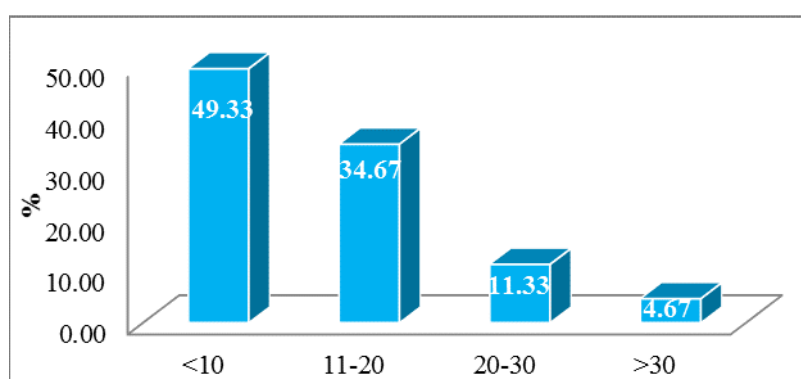


Figure 2: Distribution of Respondent by Experience

Subscription to E-resources Databases Prescribed by AICTE

Responses were collected to understand how many engineering colleges had subscribed to e-resources(s) as per AICTE norms. It was found that the majority (78.00%) of the librarians had subscribed to e-resources(s) through consortia and 18.67% subscribed directly (Table 2). It is clear from the study that almost all the engineering colleges are in support of e-resources and are compliant with the VTU and All India Council for Technical Education (AICTE) norms of subscribing to e-resource/s.

Table 2: Subscription to e-resources as per AICTE Norms

Subscription Mode	No. of Responses	Percentage
Through Direct Subscription	28	18.67
Through VTU/INDEST - AICTE Consortia	117	78.00
Not Subscribed	5	3.33
Total	150	100%

Information on Institutional Repository (IR)

The collection, management, conversion, in-house production, and showcasing of digital content has become the need of the day for librarians. In order to fulfill user needs it is very important to manage digital resources using digital management software to support search systems such as advanced search, boolean logic search, etc. for information retrieval. Hence, data was collected and represented in Table 3 to understand archiving facility provided for the current and future use of resources. The majority of the colleges (57.33%) were observed to have created an IR facility to allow the users to access archived research material, question bank, lecture notes, and so on.

Table 3: Provision of IR Facility

IR Facility	No. of Responses	Percentage
Provided	86	57.33
Not Provided	64	42.67

Information on Lecture Notes

Another important component in a library is the provision of lecture notes. These help users to learn, understand, and remember the ideas and facts presented easily. Table 4 shows the efforts of librarians in educating users to utilize lecture notes. It was observed that 97.30% of the librarians have suggested the users to use of lecture notes while the remaining 2.70% had note. This reveals that majority of the librarians were aware of lecture notes and understand responsibility of educating users for best utilize the lecture

notes.

Table 4: Librarians Suggestion to Utilize Lecture Notes to Users

Suggestions	No. of Responses	Percentage
Yes	146	97.30
No	04	02.70
Total	150	100.00

Open Access Resources

Whole world is embraced by open access resources. Open access resources are the outcome of the open access movement for which even commercial publishers like Springer, Taylor and Francis, Wiley etc. are supporting and providing free access to many articles. Although open access resources are very important resources, many of the users do not know the existence of such resources. Librarians play a key role in ensuring that the users benefit out of these resources. The librarians, however, to a large extent (86.00%) motivated to use these open resources (Figure 4).

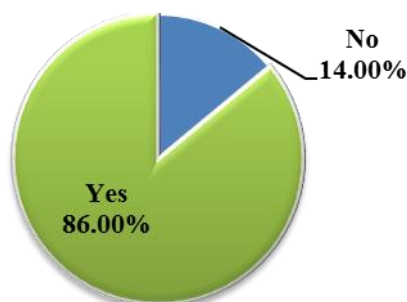


Figure 4: Recommendation of Open Access Resources to the Users

Digital Services

From the past few years academic libraries have combined various modern digital technologies with traditional library services to improve their services. Today, we are witnessing an unprecedented change in the technology, media, and telecommunications industries. These changes have solved many traditional problems and created massive opportunities for librarians to provide digital services.

From below table it is clear that majority of the librarians are providing information search service and frequently asked question service is provided by few librarians

Table 5: Digital Information Services Provided

Services	No. of Response	Percentage
Website service	114	76.00%
Literature Search Service	139	92.70%
Email Alerting Services	107	71.30%
Digital Reference Service	87	58.00%
Online Chat Service	60	40.00%
CAS	95	63.30%
SDI	85	56.70%
Subject Gateway / Portal	61	40.70%
FAQ	57	38.00%
Short Messaging Service	60	40.00%
Others	27	18.00%

Opinion on Subscription to E-resources

The AICTE has made it desirable to subscribe to the list of e-resources. It is essential to know the opinion of librarians with regard to the subscription to e-resources as per AICTE, as huge expenditure is incurred towards this. It was found that 36.67% reported that subscribing to e-resources as per AICTE norms is “essential to users” and 5.33% reported that it is “not at all required for users”. This indicates that a significantly high number of librarians are of the opinion that subscribing to e-resources is essential for users and also somewhat required for user.

Table 6: Opinion on Subscription to E-resources as Per AICTE

Opinion		Opinion					Total
		Very Essential for Users	Essential for Users	Some What Required for Users	Not at all Required for Users	Required to satisfy AICTE Committee	
Total	F	31	55	39	08	17	150
	%	20.67	36.67	26.00	5.33	11.33	100.00

Opinion on Digital Library as a Tool

Responses revealed that 52.67% of the librarians strongly agreed that the digital library is a tool in the hands of librarian to take library services to a higher level whereas, 1.33% strongly disagreed. It is clear from the results that the majority of the librarians feel digital library is an important tool through with which they can serve the user community effectively.

Table 7: Opinion on Digital Library as a Tool

Opinion	No. of Responses	Percentage
Strongly Agree	79	52.67
Agree	65	43.33
Neutral	04	02.67
Strongly Disagree	02	01.33
Total	150	100.00

Opinion of Librarians on Digital library and Digital Services

The opinion with regard to the use of digital library and digital services was collected. The opinion was grouped into six broad categories: beneficial to users, awareness required, saves space, saves time, cost effective, and easy access. In addition, there were also other positive comments. However, a few negative comments were also received.

Fifteen librarians said that digital services were useful to the users, especially for the engineering colleges. They proclaimed that as it can be reached to any place at any time, saves the time of students, who are mostly tech savvy. Apart from that, even the librarians can be benefitted out of it as disseminating the service was cost effective and convenient. Some felt it can be used for the overall development of the students and their career.

Some quoted that awareness about the digital services are important, if digital services have to be fully utilized. Further ten librarians quoted that awareness about the services is a key factor to make the users avail the services. A librarian was of the opinion that adequate infrastructure should be provided along with creating awareness for promoting digital services.

Three librarians believed that by designing digital services and digital library, library space can be saved.

Being dependent on technology, according to five librarians digital services can save time and ably support fourth law of library science 'save the time of the user'.

One respondent felt that as digital service is a "Cost effective service which increases utility."

About its easy access, six librarians commented that digital service provides easy access as it can be reached anywhere anytime. On the other hand, one of the respondents said that "Faster and accurate access to resource can be provided but usage of library will come down."

Some of the other positive comments about the digital services were recorded as follows:

"Essential to overcome the problems of the conventional library system."

"User friendly and service friendly."

"Provide an opportunity to expand service."

"Enhanced digital resources attract users towards library."

Negative opinions were voiced by some of the librarians about digital services. One of the respondents felt that the role of digital services is "diminishing the utilities and usage of the library". While another respondent was of the opinion that there is no demand for information because of digital services. There was also an impression that the tendency to accept the service was less among the users. Two respondents have rightly pointed out the need for development of infrastructure for the appropriate use of digital services and maximize the service quality.

The need for the support from teaching faculty to encourage the digital services was been felt. Similarly the financial support from Government to provide good resources was also felt by few respondents

7. Conclusion:

With the influence of technology, the scope of library systems has changed drastically. Thus librarians are able to manage libraries with great potential. Technology has provided a platform for librarians to showcase their talent. There is reduced time and

economy while providing such services. Subscription to e-resources such as journals and lecture notes were also provided by the libraries. Additionally, most of the libraries had created an institutional repository. Majority of the librarians have also provided many of the personalized. The librarians, in general, expressed favorable opinions with regard to digital services and mentioned that, they are beneficial to users; required awareness for better utilization; saves library space; saves time of library users; is cost effective; and are easy to access anywhere and everywhere. Some negative opinions were also found, for instance, some librarians believe that digital services diminish the utility and use of the library and the library staff would go out of their jobs.

This study finds that in general the librarians were satisfied with the concept of the digital library and digital services and felt that it was a significant tool that they could use to provide innovative information services to their users.

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