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Library Resources and Services of Engineering Colleges in Karnataka

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Introduction

The state of Karnataka has emerged as one of the foremost states in establishing a large number of engineering institutions/ colleges in India. Both government and private sectors have contributed to the establishment of these institutions. Consequently, there has been a rise in number of people engaged in training and education, research in the technical field. In order to fulfill the information needs of those engaged in academic, research activities a number of libraries have been established.

At the time of survey (2006-2007) there are 127 engineering colleges in Karnataka (Fig.2) catering to the needs of 1,31,672 students and having 8,838 faculties working in different discipline in different cadre. The figure-2 reveals the chronological arrangement of engineering colleges in Karnataka (source: NTMIS Nodel Centre (Karnataka State)-2007). Out of 127 colleges, 45 engineering colleges have been selected for the study. Here an attempt is made to analyse the data collected through questionnaires from all the 45 engineering college libraries under the study to explore the present status of resources and services provided by these engineering college libraries in Karnataka State.

The establishment of engineering colleges in Karnataka State between the year 'before 1940 and 2006 is shown in the figure 5. There were 47 engineering colleges established in a short span of 6 years.

Year of Establishment of Engineering colleges in Karnataka

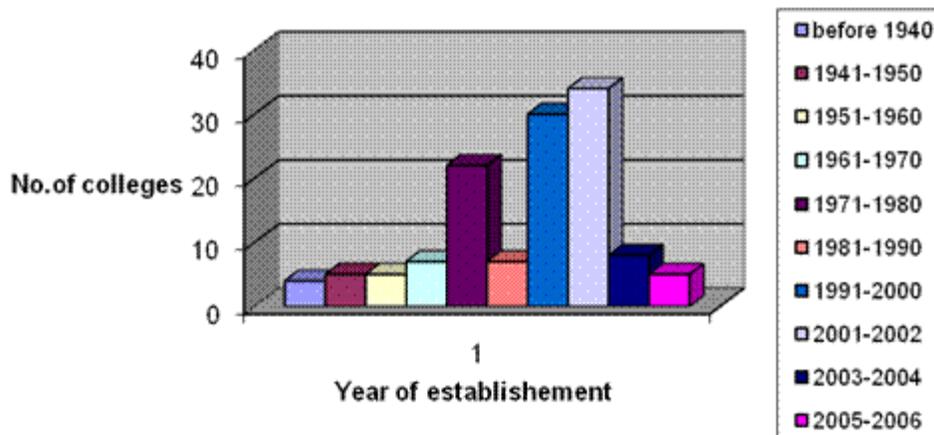


Fig.1 Year of Establishment of Engineering Colleges in Karnataka

Figure 1 shows that four engineering colleges established before 1940. There are 5 engineering colleges established in between the years 1941-1950 and 1951-1960. 7 colleges are came into existence between 1961-1970, and 22 colleges added between 1971-1980. There are 7 engineering colleges established between 1981-1990 and 30 colleges between 1991-2000. 34 engineering colleges were established between 2001-2002. There are 8 and 5 colleges added during 2003-2004 and 2005-2006 respectively.

The figure 1 further reveals that the study covers nearly 106 (83.61% of engineering colleges that have been established in the last twenty-five years. It is true that number of engineering colleges in Karnataka grew only after 1970's and a large number of engineering colleges came into existence during 1990's and after 2000.

Types of Institutions

In Karnataka primarily there are three categories of technical institutions, viz, Government Institutions, Private Institutions and university constituent colleges. Under the private colleges there are two types viz., private aided institutions, private unaided institutions. While all the government and private institutions are administratively under the control of Directorate of Technical Education at the state level, the university constituent colleges are under the control of their respective universities. The government colleges are totally financed and managed by the government; where as private aided colleges are partially financed by government but managed by private managements. The private unaided colleges are established, financed and managed entirely by the private educational societies. The third category of institutions, i.e., University constituent colleges, these are established by their respective universities and financed and managed by the respective universities. All the data pertaining to the type of colleges is present in table 1.

Table 1: Engineering colleges- Forms of Management

Management	Total no. of colleges	Selected for Study
University / Government	06 (4.72%)	04 (8.89%)
Aided	12 (9.45%)	09 (20.00%)
Private	109 (85.83%)	32 (71.11%)
Total	127 (100%)	45 (100%)

Table 1 reveals types of engineering college by management structure in Karnataka. There are 06 (4.72%) colleges were run by University/ Government including 2 evening colleges, 12 (9.45%) colleges are aided including 3 evening colleges and remaining 109 (85.83%) colleges are unaided private self financing colleges.

Out of these 122 colleges in Karnataka, we have taken 45 colleges (excluding two government and three aided evening colleges) established on or before 1995 for the present study. Since these colleges might have developed better library facilities and equipped with better infrastructure in the respective colleges. The engineering colleges have selected for study have been represented in the figure 2

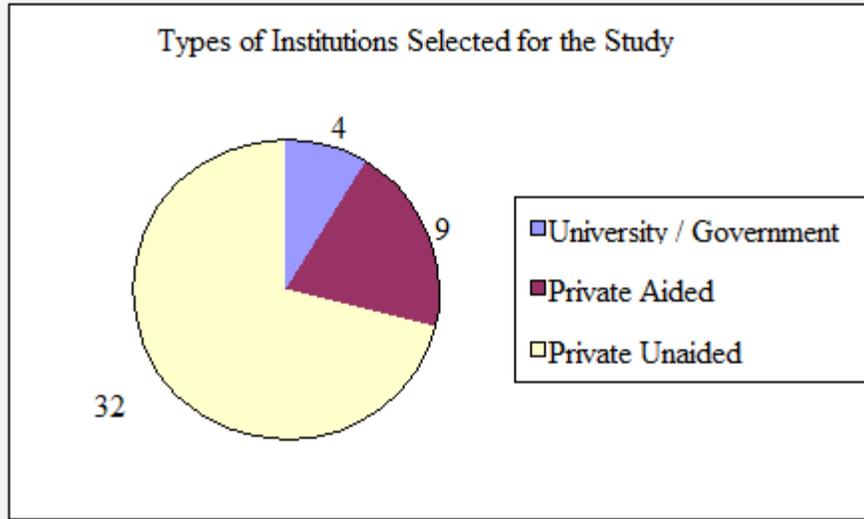


Fig.2 Types of Institutions selected for the Study

The figure 2 shows that majority of engineering institutions are private unaided. Out of 45 colleges selected for the study, 32 (71.11%) are private self financing college. The remaining 13 institutions, 9 are private aided and 4 are Government / Universities. They represent 20.00% and 8.89% respectively of the total. It is clear that private colleges have playing a major role in technical education.

Users

The libraries in higher education exist to support teaching, learning and research activities. As such, teachers, students, and research scholars form the major groups of users in engineering institutions. The details of users data both teachers and students are presented in the table 2 and 3

Table 2: User -faculty members

No. of teachers	No. of libraries	Percentage
≤ 25	02	4.45
26-50	06	13.33
51-75	07	15.56
76-100	09	20.00
101-125	10	22.22
126-150	05	11.11
151 and above	06	13.33
Total	45	100.00

It is observed from the table 2 that 2 (4.45%) colleges are having less than 25 teachers users, followed by 26-50 users in 6 (13.32%) colleges, 51-75 users in

7 (15.56%) colleges, 76-100 teachers users in 9 (20%) colleges, 101-125 users in 10 (22.22%) colleges 126-150 teacher users in 5 (11.11%) colleges, and in 6 (13.33%) colleges are having more than 150 teacher users.

Table 3: Users- students and research scholars

No. of students	No. of libraries	Percentage
< 500	02	4.44
501-1000	02	4.44
1001-1500	04	8.89
1501-2000	10	22.22
2001-2500	12	26.67
2501-3000	08	17.78
Above 3000	07	15.56
Total	45	100.00

Table 3 presents the data regarding the student users of different libraries under the study. The table clearly shows that there are less than 500 student users in 2 (4.44%) college libraries, followed by 02 (4.44%) college libraries are having 500-1000 student users. There were 1001-1500 students in 4 (8.89%) colleges in 10 (22.22%) colleges are having 1501-2000 users. There were 2001-2500 students in 12 (26.67%) colleges, 2501-3000 in 8 (17.78%) colleges, and in 7 (15.50%) colleges there were more than 3000 students.

Working Hours

The main function of the engineering college library is to satisfy its readers by providing needed information and with giving access to resources for longer hours. It is necessary that libraries should be kept open longer than the working hours of the college. During college hours, faculties are busy in the classes and it is not possible for them to spare their time in the library for reading. Therefore engineering college library should provide library services at least for 12 hours a day. The details of working hours in engineering college libraries are presented in the table 4 and 5

Table 4: Working hours on week days

No. of hours	No. of libraries	Percentage
5-10	25	55.56
11-16	19	42.22
24	01	2.22
Total	45	100.00

Table 4 clearly shows that the working hours on the weekdays in engineering college libraries under the study. It is observed from the table that 25 (55.55%) college libraries are kept open for 5-10 hours for their users, followed by 19 (42.22%) colleges libraries are kept open their libraries for 11-16 hours in a day for the benefits of the users community. It is very interestingly to note here that NIT Surathkal library functioning round the clock for the benefits of their users.

Table 5: Working hours on holidays

No. of hours	No. of libraries	Percentage
4-8	36	80.00
9-13	08	17.78
24	01	2.22
Total	45	100.00

While, observing the table 5, which clearly stipulates that the working hours

of the engineering college libraries in holiday under the study. It is observed from the table that majority of the college libraries 36 (80%) are kept open their library for 4-8 hours in a day, followed by 8 (17.78%) college libraries are functioning 9-13 hour in a holidays. Again it is very happy to record here that NIT surathkal is functioning round the clock even in holidays also.

Table 6: Average daily attendance

No. of users	No. of libraries	Percentage
< 50	07	15.56
51-100	10	22.22
101-150	11	24.44
151-200	08	17.78
Above 200	09	20.00
Total	45	100.00

Table 6 demonstrates that the data pertaining to the daily average attendance of the users of engineering college libraries under the study. It is observed from the study that less than 50 users are using their library daily in 7 (15.50%) college libraries, followed by 51-100 users are making use of their respective libraries daily in 10 (22.22%) colleges, 101-150 users using the library in 11 (24.22%) colleges, 151-200 users using the library in 08 (17.78%) colleges, and in 9 (20%) colleges the daily attendance is more than 200.

Personnel Working in Engineering College Libraries

Personnel are the essential ingredient in all organizations and institutions. They are, in fact, the vital resources for an effective and efficient organization. The personnel working in libraries are categorized in three groups based on their academic and professional qualification. Those who have possessed graduates and post-graduate degrees in Library and Information Science are considered professionals, and others who possess diploma and certificate course and are having LIS skills are grouped under the semi professional category. Those who do not possess LIS qualifications but they are working in libraries either as administrative staff and others are considered non-professionals.

Adequate manpower in general, professionals in particular are thus, vital for the efficient and effective functioning of any library. The data relating to various categories of personnel working in engineering college libraries are obtained and the same is presented in table7, 8 and 9.

Table 7: Professional staff strength

No. of Professionals	No. of libraries	Percentage
1-2	28	62.22
3-4	13	28.89
5-6	04	8.89
Total	45	100.00

Table 8: Semi-professional staff strength

No. of Semi-professionals	No. of libraries	Percentage
1-3	35	77.78
4-6	08	17.78
7-9	02	4.44
Total	45	100.00

Table 9: Non-professional staff strength

No. of Non-Professionals	No. of libraries	Percentage
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1-5	15	33.33
6-10	14	31.11
11-15	12	26.67
16-20	04	8.89
Total	45	100.00

The table –7 clearly shows that 28 (62.22%) engineering college libraries under the study are having only 1-2 professional staff, followed by 13 (28.89%) colleges are having 3-4 professionals, and 5-6 professionals are working in 04 (8.89%) colleges under the study.

Again it is clear from the table 8 that majority of the colleges 35 (77.78%) are having 1-3 semi-professionals followed by 08 (17.78%) colleges are having 4-6 semi-professionals and 7-9 semi-professionals are working in only 02 (4.44%) colleges under the study.

Further table 9 shows that the position of non-professionals working in engineering college libraries under the study. It is observed from the table that 1-5 non-professionals are working in 15 (33.33%) colleges, followed by 6-10 non-professionals in 14 (31.11%) Colleges, 11-15 non-professionals in 12 (26.67%) colleges and 16-20 non-professionals are working in 04 (8.89%) college libraries under the study. It is observed from these tables that the existing professionals and semi-professionals working in the engineering college libraries under the study are in adequate.

Academic and Professional Qualifications of Librarians

To know the professional qualification possessed by the librarians heading the libraries in engineering institutions, the collected data is presented in the table 10.

Table 10: Academic and professional qualifications of the Librarians

Qualification	No. of college librarians	Percentage
Degree+ M.L.I.Sc	32	71.11
P.G+M.L.I.Sc	10	22.22
M.L.I.Sc+ PhD	01	2.22
Degree+B.Libsc	02	4.45
Total	45	100.00

Table 10 depicts that the Academic and professional qualification of librarians of 32 (71.11%) engineering colleges are having post graduation degree in library and information science in addition to their basic academic qualifications. The remaining 13 engineering college librarians, 10 have post graduation in library & information science in addition to their post graduation in other subject, one has Ph.D. and two are just graduate in library and information science, they represent 22.22%, 2.22% and 4.45% respectively. Thus majority of the librarians possess post graduation in library and information science in addition to their basic academic qualification.

Table 11: Adequacy of library staff

Adequacy of library staff	No. of libraries	Percentage
Yes	13	28.89
No	32	71.11
Total	45	100.00

Table 11 shows that, the present survey reveals, out of 45 engineering college libraries 32 (71.11%) engineering college libraries the existing staff is not adequate.

Physical Facilities

The use of information resources and facilities in libraries is dependent on the physical facilities available for the users. Questions were asked in the questionnaire to elicit information on the nature of library buildings- independent or form the part of the main building, the total area of the library building. Information regarding physical facility obtained from the respondent libraries presented in the tables 12 and 13.

Table 12: Nature of library building

Library Building	No. of libraries	Percentage
Part of main building	31	68.89
Independent building	14	31.11
Total	45	100.00

The table 12 clearly reveals that 14 (31.11%) college libraries under the study are functioning in an independent building, where as majority of the college libraries 31 (68.89%) are functioning in some parts of the main buildings. This shows that majority of the colleges are not considering their college libraries as an independent component of the technical education system.

Table 13: Total area of the library building

Range(sq.mt)	No. of libraries	Percentage
≤1000	05	11.11
1001-1500	07	15.56
1501-2000	07	15.56
Above 2000	10	22.22
Not given	16	35.55
Total	45	100.00

Table 13 clearly stipulates that 5 (11.11%) college library are having less than 1000 sq.meter area, followed by 7 (15.56%) colleges each are having 1001-1500 and 1501-2000 sq.mtrs area respectively, 10 (22.22%) libraries are having more than 2000 sq.mtr. It is very interesting to note here that a majority of the college libraries 16 (35.55%) are not furnished any data regarding this question.

Library Committee

Library committee is a body consisting of certain persons who will supervise and advise the librarian in library matter. It has been recognized as the essential agency which is needed for the governance of the library, because the engineering college authority is often unwieldy and utmost of the time it remains busy with the multifarious problems, where as the committee can devote more time to think of proper development of library services in a better way.

Table 14: Library Committee

Response	No. of libraries	Percentage
Yes	26	57.78
No	19	42.22
Total	45	100.00

Table 14 shows that 26 (57.78%) engineering college libraries are having library committee for smooth running of their libraries. Where as the remaining 19 (42.22%) engineering college libraries did not having library committee. Further it is noted from the table 5.15 that the composition and structure of the library

committee. When we looking into the table we can came to know that the composition and structure of the library committee is varying in natures from one college to another. Principal of the college is headed the library committee in all the 26 engineering college libraries.

Table 15: Position of Librarian in the Library Committee

Position	No. of libraries (N=26)	Percentage
Member secretary	21	80.76
Convener	05	19.23

The data pertaining to the librarian's position in the library committees is depicted in table No.15. Which clearly shows that in 21 (80.70%) colleges the librarian is working as member secretary in the committee, where as in 5 (19.23%) college library is working as convener of the committee.

Table 16: Book selection committee

Response	No. of libraries	Percentage
Yes	00	00
No	45	100.00
Total	45	100.00

Table 16 reveals clearly that all the colleges under the study are not constituted the book selection committee. Infact the HOD's and faculty members are selecting the reading materials and the same is communicated to the librarian for the further action in this regard.

9.1 Library collection

The main function of an engineering college library is to select and acquire sufficient reading materials for its readers. Keeping the users requirements the library should collect good and worthwhile documents. Without balanced and rich collection, engineering college library is like a temple without an idol or a body without soul.

Due to the rapid development in science and technology and information explosion, the engineering faculty and students are required the following information sources, Periodicals, Bound Volumes of Periodicals, Electronic Resources includes e-journals and e-books, Reference Materials such as Project Reports, Patents/ Standards, Bibliographic Database on CD-ROM, Non Book Materials, Technical Reports etc. They contain latest information in order to satisfy the users in the subject field and the developments taking place in different subject. It is essential for the engineering college library to procure periodicals on various subjects offered in the college. The subscribed journals are to be bound and keep them a usable state for readers.

Library is a growing organism. This growth of library collection, if not properly nurtured, invariably deteriorate and not merely in its physical aspects but also in its coverage and depth of specialization. The college library has to develop a planned and systematic collection of various kinds, so that the needs of teachers and taught are fulfilled and their academic objectives are accomplished.

Book Collections

Books form a major types of library collection. These include reference books, textbooks, and such other books. Table 17 presents data relating to books collection in engineering colleges under the study.

Table 17: Books collection in engineering college libraries

No. of Documents	No. of libraries	Percentage
5001-10000	02	4.44
10001-15000	03	6.67
15001-20000	05	11.11
20001-25000	08	17.78
25001-30000	10	22.22
30001-35000	06	13.33
Above 35,000	11	24.45
Total	45	100.00

All the engineering college libraries under the study have given data on library collection; the collected data has been tabulated and presented in table 17. It is revealed from the table that in 2 (4.44%) colleges the total collection is ranging from 5001-10000, followed by 10001-15000 in 3 (6.67%) colleges, 15001-20000 in 5 (11.11%) colleges, 20001-25000 in 8 (7.78%) colleges, 25001-30000 in 10 (22.22%) colleges, 30001-35000 in 6 (13.33%) colleges and more than 35000 collection is available in 11 (24.45%) colleges under the study.

Current Periodicals

Journals, being the primary sources of information, contain current trends in respective disciplines. Most of these being scholarly in nature are useful to teachers, scholars and students in institutions of higher education and research. Hence, these are one type of important sources in engineering college libraries. The investigator therefore obtained the data from 45 libraries, and these are categorized into foreign and India journals and the data are presented in table 18.

Table 18: Current periodicals (Indian and foreign journals)

No. of titles subscribed	Number of institutions subscribing			
	Indian Journals	Percentage	Foreign Journals	Percentage
≤ 25	04	8.89	07	15.56
26-50	05	11.11	03	6.67
51-75	11	24.45	12	26.67
76-100	06	13.33	04	8.89
101-125	10	22.22	05	11.11
Above 125	09	20.00	08	17.78
Not subscribing	--	--	06	13.33
Total	45	100.00	45	100.00

Table 18 clearly shows that 4 (8.59%) college libraries are subscribing less than 25 Indian journals, followed by 5 (11.11%) college subscribing 26-50 Indian journals, 11 (24.45%) colleges subscribing 51-75 Indian journals, 6 (13.33%) colleges subscribing 76-100 journals, 10 (22.22%) colleges subscribing 101-125 journals and 9 (20%) colleges are subscribing more than 125 journals. On the other hand as for as foreign journals are concern 7 (15.56%) colleges under the study are subscribing less than 25 journals followed by 3 (6.67%) colleges subscribing 25-50 journals, 12 (26.67%) colleges subscribing 51-75 journals, 4 (8.89%) colleges subscribing 76-100 journals, 5 (11.11%) colleges subscribing 101-125 journals, 8 (17.78%) colleges subscribing more than 125 journals and 6 (13.33%) college libraries under the study does not subscribing any foreign journals in the colleges.

9.1.3 Back Volumes of Periodicals, Reports and Standards

Back volumes of journals are archival sources of information containing scholarly articles and research. The libraries in engineering institutions do maintain project reports of students of both graduate and postgraduate levels. The standard, patents, technical reports are yet another source of information those are helpful

particularly for technical staff and researchers. Hence information regarding back volumes of journals, project reports and standards is obtained from respondent libraries and the same is tabulated and presented in table 19.

Table 19: Back volumes of periodicals

No. of Documents	No. of libraries	Percentage
≤ 500	11	24.44
501-1000	05	17.78
1001-1500	10	22.22
1501-2000	07	15.56
2001-2500	04	8.89
Above 2,500	05	11.11
Total	45	100.00

Table 19 clearly shows that 11 (24.44%) libraries are having less than 500 back volumes followed by 5 (17.78%) libraries are having 501-1000 back volumes, 10 (22.22%) libraries are having 1001-1500 back volumes, 7 (15.56%) libraries are having 1501-2000 back volumes, 4 (8.89%) libraries are having 2001-2500 back volumes and there were more than 2500 back volumes in 5 (11.11%) college libraries under the study.

Table 20: Reports and standards

No. of Documents	Project Reports/ Technical reports	Percentage	Standards	Percentage
≤ 500	10	22.22	06	13.33
501-1000	02	4.44	03	6.67
1001-1500	02	4.44	02	4.44
1501-2000	03	6.67	--	--
2001-2500	03	6.67	--	--
NA	25	55.56	34	75.56
Total	45	100.00	45	100.00

Table 20 stipulates that 10 (22.22%) college libraries are having less than 500 reports, followed by 2 (4.44%) college libraries each are having 501-1000 and 1001-1500-report respectively. 3 (6.67%) college libraries each are having 1501-2000 and 2001-2500 reports respectively. It is very sad to note here that 25 (55.56%) colleges are not provided any data as for as reports are concerned. Where as on the other hand 6 (13.33%) college libraries under the study are having less than 500 standards, followed by 3 (6.67%) colleges are having 501-1000 standards, and 2 (4.44%) colleges are having 1001-1500 standards in these libraries. Again it is very sad to record here that 34 (75.56%) colleges are not provided any data in this regard.

9.1.4 Non Book Materials and Electronic Resources of Information

Advances in technology have lead to information explosion. This information explosion is not only in quantity and complexity but also in the form of documents from the print stage to the present electronic era. After a gap of few years of invention of printing, the technological developments led to the invention of microforms, audio-cassettes, video-cassettes, discs and now the recent CD-ROM and other optical media. The data so collected in this regard is tabulated and presented in table 21.

Table 21: Non book materials and electronic resources of information

No. of items*	No. of libraries	Percentage
≤ 50	06	13.33

51-100	15	33.33
101-150	06	13.33
151-200	03	6.67
201-250	09	20.00
251-300	03	6.67
Above 300	03	6.67
Total	45	100.00

*No of items include non-books materials such as microfiche, microfilm, audiocassettes, videocassettes, gramophones, computer floppies and CD-ROMs.

Table 21 point out that, among 45 engineering college libraries under the study 6 (13.33%) college libraries are procuring and accessing less than 50 electronic resources, followed by there were 51-100 e-resources in 15 (33.33%) colleges, 101-150 e-resources in 6 (13.33%) colleges, 151-200 e-resources in 3 (6.67%) colleges, 201-250 e-resources in 9 (20%) colleges, 251-300 in 3 (6.67%) colleges and above 300 e-resources in 3 (6.67%) colleges.

Table 22: E-Books and E-Journals subscription

Response	No. of libraries	
	E-Journals	E-Books
Subscribing	03 (6.67%)	--
Not subscribing	42 (93.33%)	45 (100.00%)
Total	45 (100.00)	45 (100.00)

The table 22 reveals that majority of engineering college libraries 42 (93.33%) are not subscribing E-Journals, where as 03 (6.67%) engineering college libraries are subscribing E-Journals.

9.2 Financial Resources

Finance plays a significant role in the organization and administration of a library. A library has to purchase books. A library has to purchase books, periodical and other reading materials, get modern furniture and equipment, erect and maintain the building and employ trained and experienced staff. All this requires sufficient funds. In the absence of adequate finance, the library cannot discharge its obligation and guarantees the continuity of proper services to the users. In other words, the quantum of funds made available towards library resources and personnel determines to a large extent the quality of a library and the services provided by it. It is, therefore, necessary that the library among other units in a college will find its separate budget head that is planned systematically.

Table 23: Sources of Finance

Sources	No. of libraries	Percentage N=45
Management	32	71.11
State Government	13	28.88
Central Govt.	01	2.22
AICTE	08	17.77

Table 23 shows the sources of finance received from different sources. Out of 45 colleges 32 (71.11%) colleges are receiving grants from management. Out of 45 colleges 13 (28.88%) colleges are receiving grants from state government. One college under the study is also receiving grants from the central government. 8 out of 45 college libraries are also received AICTE grants. This clearly shows that the engineering college libraries are getting financial assistance mainly from their parent institution i.e. Management and a few engineering college libraries were also receiving AICTE grants.

Table 24: Total library budget

Amount (Lakh)	No. of libraries	Percentage
< 2	04	8.89
2-4	11	24.44
5-6	06	13.33
7-8	07	15.56
9-10	04	8.89
Above 10	08	17.78
N R	05	11.11
Total	45	100.00

The budgetary provision of different colleges were collected and presented in tabular form in table 24, it clearly depicts that the budget of different college libraries ranging from 2 to 10 lakhs and above. It can be observed from the table that 2 lakhs and less than 2 lakhs of rupees budgetary provision were made in 4 (8.89%) college libraries followed by 2-4 lakhs in 11 (24.44%) college libraries, 5-6 lakhs in 6 (13.33%) college libraries, 7-8 lakhs in 7 (15.56%) college libraries, 9-10 lakhs in 4 (8.89%) college libraries and in 8 (17.78%) colleges the budgetary provision is more than 10 lakhs of rupees. Five college libraries were did not provide any information as for as budget is concern.

The expenditure on different items was collected from all the libraries under the study and the same is computed and presented in table No.25, 26, 27 respectively.

Table 25: Year wise expenditure on books

Amount spent (in Lakhs)	No. of libraries				
	2002-03	2003-04	2004-05	2005-06	2006-07
< 2	12	14	07	08	06
2-4	08	13	12	14	10
5-6	10	07	09	05	08
7-8	04	03	06	08	05
9-10	03	02	02	04	06
> 10	01	01	03	02	04
N R	07	05	06	04	06
Total	45	45	45	45	45

NR: no response

The expenditure on purchase of books is presented in table 25 which reveals that 12 colleges in 2002-03, 14 colleges in 2003-04, 7 colleges in 2004-05, 8 colleges in 2005-06, and 6 colleges in 2006-07 were spent less than 2 lakhs for purchase of books, followed by 8 colleges in 2002-03, 13 colleges in 2003-04, 12 colleges in 2004-05, 14 colleges in 2005-06 and 10 colleges in 2006-07 were spent 2-4 lakhs of rupees for procurement of books to their college libraries.

10 colleges in 2002-03, 7 colleges in 2003-04 and 9 college in 2004-05, 5 colleges in 2005-06 and 8 colleges in 2006-07 were spent 5-6 lakhs of rupees for acquisition of new books to their libraries. 4 colleges in 2002-03, 3 colleges in 2003-04, 6 colleges in 2004-05, 8 colleges in 2005-06 and 5 colleges in 2006-07 were made 7-8 lakhs expenditure on purchase of books. 3 colleges in 2002-03, 2 colleges each in 2003-04, 2004-05, 4 colleges in 2005-06 and 6 colleges in 2006-07 were spent 9-10 lakhs for procurement of books to their college libraries. One college each in 2002-03, 2003-04, 3 colleges in 2004-05, 2 colleges in 2005-06 and 4 colleges in 2006-07 were spent more than 10 lakhs towards purchase of books to their libraries.

Table 26: Year wise expenditure on current journals

Amount spent(in Lakhs)	No. of libraries				
	2002-03	2003-04	2004-05	2005-06	2006-07
< 1	12	16	16	10	08
1-2	20	08	12	13	10
3-4	08	03	05	04	06
5-6	03	04	03	06	09
7-8	01	02	01	03	02
9-10	0	01	01	0	01
> 10	0	0	01	01	02
N R	9	11	06	08	07
Total	45	45	45	45	45

NR: no response

The expenditures on subscription of current journals were presented in table 26, which shows that in 2002-03, 12 college libraries spent less than one lakhs for subscription of journals, followed by 20 college libraries spent 1-2 lakhs, 8 college libraries spent 3-4 lakhs, 3 college libraries spent 5-6 lakhs, one college spent 7-8 lakhs for subscription of journals to their respective libraries. 9 college libraries were not provided any data as for as expenditure on subscription of journals are concern.

During the year 2003-04, 16 colleges spent less than one lakh for subscription of current journals to the libraries, followed by 8 colleges spent 1-2 lakhs, 3 colleges spent 3-4 lakhs, 4 colleges spent 5-6 lakhs, 2 colleges spent 7-8 lakhs, one college spent 9-10 lakhs for subscription of journals to their libraries. 11 colleges under the study neither subscribe any journals nor provided any data pertaining to expenditure on subscription of journals are concern.

In the year 2004-05, 16 colleges were spending less than one lakh for subscription of current journals, followed by 12 colleges spent 1-2 lakhs, 5 colleges spent 3-4 lakhs, 3 colleges spent 5-6 lakhs, one college each spent 7-8 lakhs, 9-10 lakhs and more than 10 lakhs respectively for subscription of current journals to their college libraries. 6 colleges were not furnished any data on this item.

In 2005-06, 10 colleges spent less than one lakh for subscription of journals, followed by 13 colleges spent 1-2 lakh, 4 colleges spent 3-4 lakhs, 6 colleges spent 5-6 lakhs, 3 colleges spent 7-8 lakhs and one college is spent 9-10 lakhs for subscription of journals to their college libraries. 8 colleges were not provided any data in this regard. During 2006-07, 8 college libraries were spent less than one lakh rupees for subscription of journals, followed by 10 college libraries are spending 1-2 lakhs, 6 college libraries spent 3-4 lakhs, 9 colleges spent 5-6 lakhs, 2 colleges spent 7-8 lakhs, one college library spent 9-10 lakhs and 2 college libraries were spending more than 10 lakhs rupees for subscription of current journals. 2 colleges were not furnished any data as for as expenditure on journals subscription.

Table 27: Miscellaneous expenditure

Amount spent (in Rupees)	No. of libraries				
	2002-03	2003-04	2004-05	2005-06	2006-07
< 25,000	16	13	12	14	15
25,000-50,000	13	14	16	17	08
51,000-75,000	02	03	02	02	05
76,000-1,00,000	01	02	04	03	04
Above 1 lakhs	0	01	02	01	03
N R	10	12	09	08	10
Total	45	45	45	45	45

NR- no response

The data on miscellaneous expenditure is computed and presented in talbe-27 which clearly stipulated that 16 colleges in 2002-03, 13 colleges in 2003-04, 12 colleges in 2004-05, 14 colleges in 2005-06 and 15 colleges in 2006-07 were spent less than 25,000=00 rupees on other expenditure of the libraries. 13 colleges in 2002-03, 14 colleges in 2003-04, 16 colleges in 2004-05, 17 colleges in 2005-06, 8 colleges in 2006-07 were spent 25,000-50,000 on miscellaneous expenditures. 2 colleges in 2002-03, 3 colleges in 2003-04, 2 college each in 2004-05 and 2005-06 and 5 colleges in 2006-07 were spending 51,000-75,000 rupees on journal subscription. One college in 2002-03, 2 colleges in 2003-04, 4 colleges in 2004-05, 3 colleges in 2005-06 and 4 colleges in 2006-07 were spent rupees 76,000-1,00,000 and one college each in 2003-04 and 2005-06, 2 colleges in 2004-05 and 3 colleges in 2006-07 were spent more than one lakh for others expenditure. Few colleges were not provided any data in this regard.

Organization of Reading Materials

Classification System Used

Table.28: Status of Classification

Response	No. of libraries	Percentage
Yes	42	93.33
No	03	6.67
Total	45	100.00

Table 29 : Classification scheme used

Classification scheme	No. of libraries	Percentage N=42
Dewey decimal classification	39	92.86
Colon classification	02	4.76
Other	01	2.38

Table 28 is reveals that the status of classification done in the engineering college libraries. It shows clearly that 42 (93.33%) college libraries are classified their documents, and remaining 3 (6.67%) college libraries are not classified the documents. Further table 29 shows the clear picture about classification scheme is adopted to classify their documents. It is observed from the table that 39 (92.86%) college libraries are following DDC classification scheme, and 2 (4.76%) college libraries are following Colon Classification scheme to classify their documents.

Cataloguing Code Adopted

Table 30: Status of Catalogue

Response	No. of libraries	Percentage
Yes	42	93.33
No	03	6.67
Total	45	100.00

Table 31: Catalogue code used

Catalogue code	No. of libraries	Percentage N=42
CCC	02	4.76
AACRII	37	88.10
NR	03	7.14

NR-Not responded

The data pertaining to catalogue is presented in table 30. It reveals that 42 (93.33%) college libraries are prepared catalogue cards in their libraries. Remaining 3 (6.67%) colleges yet to prepare catalogues. Further the table 31 shows that 2 (4.76%) colleges followed the Classified Catalogue Code to prepare the catalogue cards, and 37 (88.10%) colleges are adopted AACR-II for preparing catalogue cards. 3 (7.14%) colleges are not furnished any information about cataloguing is concern.

Circulation Section

Table 32: Position of circulation section

Response	No. of libraries	Percentage
Yes	26	57.78
No	19	42.22
Total	45	100.00

Table 32 deals with the provision of separate circulation section. It is observed from the table that 26 (57.78%) college libraries are having separate circulation sections, where as on the other hand 19 (42.22%) college libraries not having separate circulation section. Further table 38 shows that in 8 (30.77%) college libraries the circulation section is managed by professionals, followed by semi-professionals manages in 9 (34.62%) college and non-professionals are maintaining in 6 (23.07%) colleges. Information not furnished in 3 (11.54%) colleges.

Table 33: Type of professionals managing circulation section

Type of professional	No. of libraries	Percentage N=26
Professionals	08	30.77
Semi professionals	09	34.62
Non- professionals	06	23.07
NR	03	11.54

Table 34: System followed for circulation

System	No. of libraries	Percentage
Borrowers ticket	19	42.22
Register system	09	20.00
Barcode method	15	33.33
Other	02	4.45
Total	45	100.00

Table 33 gives the detail account of different systems used to issue the books to the user. It is observed from the table that in 19 (42.22%) college libraries, books are issued to users through borrowers card/tickets. In 9 (20%) college libraries are lent out the books through ledger system. Barcode method is used in 15 (33.33%) colleges; other system is followed in 2 college libraries (Other System were not specified by the respondents).

Table 35: Average number of books circulated per day

No. of books Circulated per day	No. of libraries	Percentage
≤ 25	03	6.67
26-50	02	4.44
51-75	04	8.89
76-100	06	13.33

101-125	09	20.00
126-150	08	17.78
Above 150	13	28.89
Total	45	100.00

The table 35 reveals the average number of books circulated per day in engineering college libraries. The number of books issued on an average per day is ≤ 25 in 03 (6.67%) libraries. It ranges between 26-100 in 12 (26.67%) and 101-150 in 17 (37.78%) libraries. In 13 libraries books issued on average per day is above 150 (28.89%).

Table 36: Types of access provided

Access	No. of libraries	Percentage
Open access	24	53.33
Closed access	09	20.00
Partially open access	12	26.67
Total	45	100.00

Table 36 shows that, open access followed in 24 (53.33%) libraries, whereas closed access is followed in 9 (20.00%) libraries and partially open access in 12 (26.67%) libraries. More than half of the libraries followed open access system.

Table 37: Daily average time spent in library

Hours per day	No. of libraries	Percentage
Less than one	19	42.22
One-two	11	24.45
Three-four	02	4.44
More than four	03	6.67
Total	45	100.00

Table 37 reveals the daily average attendance of the engineering college teachers. It is observed from the table that in 19 (42.22%) colleges the teachers using the library less than one hour in a day, followed by in 11 (24.45%) colleges the teachers stay in the library 1-2 hours per day, 2 (4.44%) colleges teachers using three to four per day, 3 (6.67%) colleges the daily attendance of the teacher is more than four hours. The information in this regard is not furnished by 10 (22.22%) college libraries.

Table 38: Preferable time using the college library

Timings	No. of libraries	Percentage
8 am to 10 am	05	13.33
10 am to 3 pm	16	35.55
3 pm to 6 pm	20	44.44
At leisure time	12	26.67
NR	11	24.45
Total	45	100.00

The data pertaining to the preferable time to visit the college libraries by the teachers of engineering college is collected, tabulated and presented in table 38. It is observed from the study that teachers preferred 8 am to 10 am in 5 (13.30%) colleges, followed by 10 am to 3 pm is preferable to the teachers in the 16 (35.55%) college libraries. In 20 (44.44%) colleges the teachers prefer the time spent in the college libraries is 3 pm to 6 pm. Where as teacher in 12 (26.67%) college said that they are using the library at their leisure time that means as and when they get time they will make use of their libraries. In 11 (24.45%) college libraries are not provided any information in this regard.

Table 39: Access tools used by teachers

Tools	No. of libraries	Percentage
Library catalogue / OPAC	36	80.00
Current awareness Bulletins (Eg. List of additions) of library	12	26.67
Consulting colleagues & fellow professionals	10	22.22
Consulting Librarian / library staff	38	84.44
Other	05	11.11
Total	45	100.00

Table 39 depicts that the information regarding the access tools used by the faculty members of the engineering college libraries. In 36 (80%) college libraries the teachers are using the library catalogue /OPAC. List of new addition are also used to locate their required books in the library in 12 (26.67%) college libraries. In 10 (22.22%) colleges the teachers are consulting their colleagues, fellow professional etc, to locate their needed books. Faculty members are consulting the Librarian and Library staff to locate their required reading materials in 38 (84.44%) colleges libraries. The remaining 5 (11.11%) college authorities were not furnished any information in this regard.

Services Offered

The main task of the college library is to supplement the teaching and learning process of teachers and learners. For this purpose and also to make their teaching and learning more effective, the library has to set various services, so that the information needs of teachers and students are satisfied. While the service of college libraries in their early stage was restricted to circulation of books, with the changing circumstances today, we find several services extended to their users.

Table 40: Services offered by libraries

Services	No. of librariesN=45	Percentage
Reference service	45	100.00
Bibliographic databases on CD ROM	18	40.00
Internet Services	28	62.22
Inter library loan	16	35.55
CAS	08	17.77
SDI	03	6.66
Reprographic Services	26	57.77
News paper clipping services	08	17.77

Table 40 exhibits the services provided by the libraries. Reference service is provided in all the engineering college libraries. 18 libraries are providing CD ROM Bibliographic data base search service, 28 libraries are providing Internet service to the teachers, representing 40.00% and 62.22% respectively. 16 (35.55%) libraries are providing inter library loan facility. Current awareness service and SDI service are not provided in large number of libraries, they representing 08 (17.77%) and 03 (6.66%) respectively. 26 (57.77%) libraries are providing reprographic services and 08 (17.77%) libraries are providing newspaper-clipping service to the teachers.

Librarian Feedback and Plan to Introduce New Services

Table 41: Plan to introduce new services

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Response	No. of libraries	Percentage
Yes	29	64.44
No	16	35.56
Total	45	100.00

Table 41 reveals that 29 (64.44%) libraries are interested in introducing computer based information services such as accessing e-resources, consortia facilities, full text article service, online database services etc., 16 (35.56%) colleges are not interested in introducing new services because of shortage of manpower and infrastructure facilities.

Conclusion

The data collected from 45 engineering college libraries are analysed and explore the status of resources and services provided to the users. Some of the colleges have rich collection and infrastructure facilities, which have to share with other colleges.

In the era of information technology, computers and communication infrastructure are pre requisites, hence libraries are to provide more fund and trained manpower to maintain and extend better service to the engineering college library users.

Owing to the tremendous expansion of knowledge and its dissemination through great variety of media, the organization of information services in engineering college libraries requires new technology and methods for the benefit of the users. Information has been recognized as a vital resource. Its need in decision-making, extension of knowledge, and conservation of research efforts is indispensable.

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