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Library Facilities, Sources and Services in the Engineering Colleges in Goa State: A Study

Dr. B.U. Kannappanavar[1] and Jayaprakash[2]

[1]Librarian, Sahayadri College, Shivamogga.
[2]Librarian, D.M's College of Arts, Science, Commerce, Management Studies and Technology, Mapusa, Goa–403 507.
E-mail: [1]kannappanavar@gmail.com, [2]dmclibrarian@rediffmail.com

Abstract

The paper discusses the information sources and services available in the engineering colleges in Goa state. The study highlights the professional education in Goa State. The study discussed that the available professional staff is insufficient to extend the information services to their clients. Goa college of Architecture is having poor collection, majority of the colleges are not allocated separate budget for the IT application. Majority of the colleges under the study are automated their routine work in the library. All the colleges are providing internet and other electronic information services to their clients.

1. Introduction

Libraries are considered to be the heart of an education institute. They primarily exist to provide information to the learners. Due to rapid advancement in Information Communication Technology and the free availability of information on the internet, the traditional libraries face a keen competition from hybrid/electronic libraries. Now, a day's users try to get information through internet as it is very easy to search and get information, instead of spending hours together in the library looking for information in the books, journals and other reading materials. Currently, libraries are gradually being transformed into knowledge resource centers. They are no longer limited to collection of books and periodicals. Users now require access to numerous kinds of materials and expertise. The modern library acts as a networking "hub" that collects, manages and disseminates electronic information and knowledge beyond just providing access to a collection of printed books and other publications.

2. The State of Goa

Goa is a small state on the West Coast of India located between Sahyadri Mountain range on east and Arabian Sea on the west. Goa comprises of two districts: North Goa and South Goa. Tourism has been identified as a major industry in Goa followed by mining industry. The total population of Goa is around 1.4 million and it attracts 1.2 million tourists every year. This shows the importance of tourism to the Goan Economy.

Goa enjoys a place of pride in the country as one of the most literate states of India. The State has achieved literacy rate of 87% with 90% of male and 84% of females being literate. It has registered an impressive progress in field of education. Since, Goa is having 21 Academic degree colleges and 33 professional colleges along with Goa University. Goa is also having research centers like National Institute of Oceanography and others.

3. Professional Education in Goa

Professional/Technical education is the application of scientific and technical knowledge to solve human problems. It is the use of imagination, judgment and reasoning to applied science, technology, mathematics and practical experience, which resulted in the design, production and operation of useful objects or processes. Technical education is a basic and essential input for national development and for strengthening the industry, economy and ultimately the quality of life of people. Professional education also plays a vital role in human resource development of the country by creating skilled manpower, enhancing industrial productivity and improving the quality of life. Technical education in India contributes a major share to the overall education system and plays a vital role in the socio-economic development of the nation.

At present, Goa State is having five self financing Engineering institutions, administered by the different private managements those are Birla Institute of Technology and Science, Vasco, Padre Conceicao College of Engineering, Verna., Shree Rayeshwar Institute of Engineering and Information Technology, Shiroda, Don Bosco College of Engineering, Fatorda, and St. Agnel's Institute of Technology and Design at Assagao. Goa College of Engineering at Farmagudi and Goa College of Architecture at altinho both are government colleges.

4. Objective of the Study

The main objective of the study is to know the true complexion of the present status of the existing library facilities, (i.e.:- internet facility, library personnel, library resources and services) resources and electronic services available in the Government and Private Engineering College Libraries in Goa. And to make suggestions for a modern user oriented library services.

5. Scope and Limitations of the Study

Scope of this study was limited to the full time and Part-time teachers and students of professional colleges that too two private engineering colleges and two government engineering colleges in Goa State. The study has been limited to the four engineering colleges affiliated to Goa University only.

6. Review of Related Literature

6.1 Ali, P.M. Naushad and Md. Ehsan Hasan

(2003) had made a survey of the use of the electronic information service by the users of IIT library Delhi. The questionnaire supplemented with interview method has been used to solicit the opinions of the different level of user group. The paper also examines the utilization and satisfaction level of users about Internet. CD-ROM databases and other services provided by the library. Finally it highlights the suggestions made by the users for the further improvement of electronic services of IIT Library Delhi. 1

6.2 Alur Seema and others

(2003) have discussed the Use of Internet by undergraduate students of PDA College of Engineering, Gulbarga. They Reports the results of a questionnaire survey to measure the use of Internet by 193 undergraduate students of engineering at the Poojya Doddappa Appa College of Engineering and Technology, India, which found that Internet use tends to be confined to general or recreational purposes and its potential in supporting curricular requirements has not been realized by the students. Very few students are making the use of Internet at college and this need to be increased. Internet facility should also be further extended to the library, as it has become an important source of information, facilitating effective communication and retrieval medium. Finally they concludes that awareness needs to be created among the students for using Internet in addition to the library facilities and training is to be provided to acquaint students with Internet and its resources. 2

6.3 Conkling, T W

(2000) has undertaken a study on the assessment of the real value of the Internet for scholarly research. Engineering information is steadily moving on to the Internet in a mixture of fee based and free sites. Printed resources are still very important to the field, but Web based electronic journals, databases and document image files are now bringing information directly to the desktop. Commercial organizations, professional societies and government agencies are all actively developing online products. Examines the current state of engineering information on the Web. Reviews the available formats and access options for the major types of resources used by engineers and engineering students. 3

6.4 Kumar, Rajeev and Kaur, Amritpal

(2005) had made a survey to analyze the use of the Internet and related issues among the teachers and students of engineering colleges of Punjab, India. A well-structured

questionnaire was distributed among the 960 teachers and students of all the engineering colleges of Punjab. The response rate was 84.2 per cent. The present study demonstrates and elaborates the various aspects of Internet use such as, frequency of Internet use, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the colleges. The result of the survey also provided information about the benefits of the Internet over conventional documents. It was found that the Internet had become a vital instrument for teaching, research and learning process of these respondents. Some suggestions have been set forth to make the service more beneficial for the academic community of the engineering colleges under study. 4

6.5 Kumar, Rajeev and Kaur, Amritpal
(2006) had made a survey to analyze the use of the Internet and related issues among the teachers and the students of engineering colleges in India's three States of Punjab, Haryana and Himachal Pradesh. A well-structured questionnaire was distributed among the 1980 teachers and students of all the engineering colleges of the three states of India under study. The response rate was 80.9 per cent. The present study demonstrates and elaborates the various aspects of Internet use, such as frequency of Internet use, methods used for learning of Internet skill, most frequently used place for Internet use, purposes for which the Internet is used, use of Internet services, ways to browse the information from the Internet, problems faced by the users and satisfaction level of users with the Internet facilities provided in the college. The result of the survey also provides information about the benefits of the Internet over conventional documents. The study was conducted particularly to find an answer to the question as to whether the Internet can replace library services. It was found that the Internet has become a vital instrument for teaching, research and learning process of these respondents. Some suggestions are set forth to make the service more beneficial for the academic community of the engineering colleges under study. 5

7. Methodology

Survey method was adopted; structured questionnaires are distributed to all the engineering college librarians followed by interviews to get full information about the functioning of their college libraries.

8. Results and Discussions

Table 8.1: Year of Establishment of colleges and their Libraries.

Sl. No.	Name of the Institutions	Year of Establishment			
		1967	1982	1997	2004
1	Padre Conceicao College of Engineering	-	-	1 (25)	-
2	Goa College of Engineering	1 (25)	-	-	-

3	Goa College of Architecture	-	1 (25)	-	-
4	Birla Institute of Technology and Science	-	-	-	1 (25)
	Total	1 (25)	1 (25)	1 (25)	1 (25)

Source: Primary Survey

Table-8.1 clearly indicates that the year of establishment of the colleges and their libraries. The table depicts that Goa College of Engineering was established in the year 1967, followed by Goa College of Architecture in the year 1982. In 1997 Padre Conceicao College of Engineering was established, and Birla Institute of Technology and Science were established in the year 2004.

Table 8.2: Library Staff Strength.

Sl. No.	Name of the Institutions	Total No. of Library Staff		
		Less than 5	6 to 10	11 to 15
1	PCCE	-	1 (25)	-
2	GCE	-	1 (25)	-
3	GCA	1 (25)	-	-
4	BITS	-	-	1 (25)
	Total	1 (25)	2 (50)	1 (25)

Source: Primary Survey

Table-8.2 demonstrates the library staff strength in the Engineering college libraries under the study. It reveals that two college libraries under the study namely PCCE and GCE are having 6–10 library staff. Followed by GCA is having less than five staff and BITS is having more than 10 staff in their respective libraries.

Table 8.3: Age and Experience of the Librarian.

Sl. No.	Name of the Institution	Age of the Librarian			Experience of the Librarian				
		31 to 35	36 to 40	41 to 45	Less than 5 Years	6 To 10 Years	16 To 20 Years	21 To 25 Years	26 To 30 Years
1	PCCE	1 (25)	-	-	1 (25)	-	-	-	-
2	GCE	-	-	1 (25)	-	-	1 (25)	-	-
3	GCA	-	1 (25)	-	-	-	1 (25)	-	-
4	BITS	-	-	1 (25)	-	-	1 (25)	-	-
	Total	1 (25)	1 (25)	2 (50)	1 (25)	-	3 (75)	-	-

Source: Primary Survey

Table-83 clearly shows that the respondent's age and experience. 50% librarians belonged to 41 to 45 years age group and 25% librarians each is aged between 31 to 35 and 36 to 40 years age group respectively

Further it is analyzed that 75% librarians are having 16 to 20 years of experience followed by 25% librarians are having less than 5 years of experience as a librarian. This table shows that, the majority of the librarians have experience between 16 to 20 years.

Table 8.4: Users of the Library.

Users	Numbers	PCCE	GCE	GCA	BITS	Total
No. of Full Time Teachers	**5 to 10**	-	-	1 (25)	-	1 (25)
	51 to 100	1 (25)	-	-	-	1 (25)
	101 to 150	-	1 (25)	-	-	1 (25)
	151 to 200	-	-	-	1 (25)	1 (25)
Part Time Teachers	**No**	1 (25)	-	-	1 (25)	2 (50)
	6 to 10	-	-	1 (25)	-	1 (25)
	11 to 15	-	1 (25)	-	-	1 (25)
UG Students	**151 to 200**	-	-	1 (25)	-	1 (25)
	801 to 1000	1 (25)	-	-	-	1 (25)
	1000 to 1500	-	1 (25)	-	-	1 (25)
	2001 to 2500	-	-	-	1 (25)	1 (25)
PG Students	**No**	-	-	1 (25)	-	1 (25)
	Less than 50	1 (25)	-	-	1 (25)	2 (50)
	50 to 100	-	1 (25)	-	-	1 (25)
Administrative Staff	**11 to 15**	-	-	1 (25)	-	1 (25)
	21 to 50	-	1 (25)	-	-	1 (25)
	51 to 100	1 (25)	-	-	-	1 (25)
	101 to 125	-	-	-	1 (25)	1 (25)

Source: Primary Survey

Table-8.4 clearly shows the number of library users in the Engineering colleges in the Goa State. The study shows that one college namely GCA is having 5 to 10 full time teachers, followed by 51 to 100 teachers in PCCE, 101 to 150 teachers in GCE and 151 to 200 full time teachers in BITS. As for as Part time and Guest faculties are concerned 50% of the colleges (that too private) under the study do not have any part time teachers, whereas one college each under the study is having six to ten and eleven to fifteen part time teachers respectively.

As for as Under Graduate students are concerned, one college each under the study is having 151 to 200 students, followed by 801 to 1000, 1000 to 1500 and 2001 to 2500 students respectively. Whereas on the other hand, two colleges under the study are having less than fifty post graduate students. One college namely GCE is having fifty to hundred PG students.

As for as Administrative and support staff is concerned the above table reveals that one college each under the study is having 11 to 15, 21 to 50, 51 to 100 and 101 to 125 administrative staffs respectively.

Table 8.5: Collection of reading materials in the library.

Collection	Numbers	PCCE	GCE	GCA	BITS	Total
Books	**5001 to 10000**	-	-	1(25)	-	1(25)
	15001 to 20000	1(25)	-	-	-	1(25)
	25001 to 30000	-	-	-	1(25)	1(25)
	50001 to 80000	-	1(25)	-	-	1(25)
No. of Journals	**10 to 20**	-	-	1(25)	-	1(25)
	30 to 40	1(25)	-	-	-	1(25)
	51 to 100	-	1(25)	-	-	1(25)
	101 to 200	-	-	-	1(25)	1(25)
No. of Back volumes	**301 to 400**	1(25)	-	-	1(25)	2(50)
	501 to 750	-	-	1(25)	-	1(25)
	4,001 to 5,000	-	1(25)	-	-	1(25)
No. of Scientific/Technical Reports	**No**	-	1(25)	-	1(25)	2(50)
	10 to 20	-	-	1(25)	-	1(25)
	More than 50	1(25)	-	-	-	1(25)
No. of Thesis/Dissertations	**No**	1(25)	-	1(25)	1(25)	3(75)
	451 to 500	-	1(25)	-	-	1(25)
No. of Standards	**No**	1(25)	1(25)	-	-	2(50)
	Less than 10	-	-	-	1(25)	1(25)
	More than 50	-	-	1(25)	-	1(25)
No. of Electronic Databases	**No**	1(25)	1(25)	1(25)	-	3(75)
	Less than 1000	-	-	-	1(25)	1(25)
Patents, Conference Proceedings, Gazette Notifications, Floppies and Microfilms/Fiche	**No**	1(25)	1(25)	1(25)	1(25)	4((100)
	Less than 10	-	-	-	-	-
No. of Audio/Visual Aids	**No**	1(25)	1(25)	-	-	2(50)
	Less than 50	-	-	1(25)	1(25)	2(50)
No. of CD/DVD-ROMs	**Less than 50**	-	-	1(25)	-	1(25)
	1000 to 1500	1(25)	-	-	1(25)	2(50)
	More than 1500	-	1(25)	-	-	1(25)

Source: Primary Survey

Table-8.5 analyzes the collection of reading materials in the engineering college libraries under the study. One library namely PCCE is having 15001 to 20,000 books, and it subscribes 30-40 journals. The library is having 301-400 back volumes followed by more than 50 scientific and technical reports along with around 1000-1500 CD's and DVD's. But it is surprising to record here that PC College of Engineering is not having any thesis and dissertations, standards, patents, electronic data bases, and Audio visual collection in their library. On the other hand Goa College of Engineering is having 50001 to 80,000 books, and it subscribes 51-100 subject journals. The library is having 4001-5000 back volumes, and 451 to 500 numbers of thesis and dissertations.

Followed by the library is having more than 1500 CD's and DVD's. Again it is surprising to record here that Goa College of Engineering is not having any scientific and technical reports, standards, patents, electronic data bases, and Audio visual collection in their library

Another college under the study namely GCA is having 5001 to 10,000 books, and it subscribes 10-20 journals. The library is having 501-750 back volumes followed by the library is having 10-20 scientific and technical reports, more than 50 standards, less than 50 audio visual materials and it is also having less than 50 CD's and DVD's. But it is surprising to record here that GCA College of Engineering is not having any patents and electronic data bases in their library Collection.

Finally Birla Institute of Technology is having 25001 to 30,000 books, and it subscribes 101-200 current journals. The library is having 301-400 back volumes followed by the library is having less than 50 audio visual materials and it is also having around 1000-1500 CD's and DVD's. But it is surprising to record here that BITs is not having any thesis and dissertations, standards, patents, electronic data bases, conference volumes in their library. It is observed from the study that majority of the colleges under the study are not having electronic data bases, patents and standards in their college libraries.

Table 8.6: Usage of the Library.

Users	Numbers	PCCE	GCE	GCA	BITS	Total
Average No. of users visiting the library in a day	**50 to 100**	-	-	1 (25)	-	1 (25)
	100 to 200	1 (25)	-	-	-	1 (25)
	301 to 400	-	1 (25)	-	1 (25)	2 (50)
In house use/consulted in a day	**Below 50**	-	-	1 (25)	-	1 (25)
	75 to 100	-	1 (25)	-	-	1 (25)
	101 to 200	1 (25)	-	-	-	1 (25)
	301 to 400	-	-	-	1 (25)	1 (25)
No. of books borrowed in a day	**50 to 100**	-	-	1 (25)	-	1 (25)
	101 to 200	1 (25)	-	-	-	1 (25)
	201 to 300	-	-	-	1 (25)	1 (25)
	301 to 400	-	1 (25)	-	-	1 (25)
No. of Bound Volumes Consulted	**No**	1 (25)	-	1 (25)	1 (25)	3 (75)
	50 to 100	-	1 (25)	-	-	1 (25)
No. Current issues consulted in a day	**Less than 10**	1 (25)	-	1 (25)	1 (25)	3 (75)
	More than 10	-	1 (25)	-	-	1 (25)
Average No. of users using e-resources in a day	**No**	-	-	1 (25)	-	1 (25)
	10 to 20	1 (25)	-	-	-	1 (25)
	21 to 30	-	1 (25)	-	-	1 (25)
	100 to 200	-	-	-	1 (25)	1 (25)

Source: Primary Survey.

An attempt is made to identify the daily usage of the library under the study, and the same is reported in table-8.6. It is observed from the study that 301 to 400 users are visiting in two college libraries under the study GCE and BITS. Followed by 50 to 100 users are visiting in one college library namely GCA and 101 to 200 users are visiting in PCCE college libraries daily.

As for as reference services are concerned less than 50 users are using references services in GCA, followed by 75 to 100 users are using reference services in GCE, 101 to 200 in PCCE, and 301 to 400 in BITS respectively. As for as circulation service is concerned 50 to 100 books circulated in a day in GCA, followed by 101 to 200 in PCCE, 201 to 300 in BITS and 301 to 400 books daily in GCE.

Three colleges namely PCCE, GCA and BITS users are not at all consulted the bound volumes of journals in their respective libraries, whereas, only GCE college users are consulted 50 to 100 bound volumes in a day. Again three colleges under the study namely PCCE, GCA and BITS users i.e.: less than 10 number of users are consulting the current issues of the journals, but more number of users i.e.: more than 10 number of users are consulting the current issues of the journals in GCE college library. As for as using of e-resources are concerned 10-20 users are using this service in PCCE College, followed by 21-30 users are using this service in GCE College, 100-200 users are using this in BITS. But in GCA none of the users are using this service.

Table 8.7: Amount spent on Electronic Materials.

Sl. No.	**Name of the institutions**	**2004-2005**		**2005-2006**		**2006-2007**		**2007-2008**			**2008-2009**		
		No	**Less than 50,000**	**No**	**Less than 50,000**	**No**	**3,00,001 to 4,00,000**	**No**	**4,00,001 to 5,00,000**	**6,00,001 to 7,00,000**	**No**	**Less than 50,000**	**5,00,001 to 6,00,000**
1	PCCE	1 (25)	-	1 (25)	-	-	1 (25)		-	1 (25)	-	-	1 (25)
2	GCE	1 (25)	-	1 (25)	-	1 (25)	-	1 (25)	-	-	-	1 (25)	-
3	GCA	1 (25)	-	1 (25)	-	1 (25)	-	1 (25)	-	-	1 (25)	-	-
4	BITS	1 (25)	-	1 (25)	-	1 (25)	-	-	1 (25)	-	-	-	1 (25)
	Total	4 (100)	-	4 (100)	-	3 (75)	1 (25)	2 (50)	1 (25)	1 (25)	1 (25)	1 (25)	2 (50)

Source: Primary Survey

Amount spent on electronic materials by the different college libraries under the study have been presented in the table-8.7 it clearly shows that, PCCE college library

has spent 3-4 lakh on electronic materials in the year 2006-07 followed by 6-7 lakh in the year 2007-08 and 5-6 lakh in the year 2008-09. As for as GCE is concerned this college has spent less than 50000 rupees on electronic materials, only in the year 2008-09. Another library under the study namely BITS also spent rupees 4-5 lakh in the year 2007-08 and rupees 5-6 lakhs in the year 2008-09. One more college library under the study called GCA has not spent a single rupee for procurement of electronic materials for its library users. Again the table shows that the procurement of electronic materials is a recent phenomenon in all the engineering college libraries under the study.

Table 8.8: Budget Allocation.

Sl. No.	Name of the Institutions	Books		Periodicals		Non-Print Materials	
		Yes	No	Yes	No	Yes	No
1	PCCE	1 (25)	-	1 (25)	-	1 (25)	-
2	GCE	-	1 (25)	-	1 (25)	-	1 (25)
3	GCA	-	1 (25)	-	1 (25)	-	1 (25)
4	BITS	1 (25)	-	1 (25)	-	1 (25)	-
	Total	2 (50)	2 (50)	2 (50)	2 (50)	2 (50))	2 (50)

Source: Primary Survey.

Budget is very important for any organization to develop any library also gets allocation of funds for its growth from the government and the concern management. Table-8.8 reveals the allocation of funds to the library resources. Two private engineering college libraries namely PCCE and BITS under the study allocate the budget for purchase of books, periodicals and non-print materials for the benefits of the user community. Remaining two government colleges namely GCE and GCA are not furnished any data as for as budget for the library is concerned.

Table 8.9: Library Automation.

Sl. No	Name of the Institutions	Yes	No	Software Used
1	PCCE	1 (25)		In house developed Library Management Software
2	GCE	1 (25)		LIBMAN
3	GCA		1 (25)	-
4	BITS	1 (25)		LIBSYS
	Total	3 (75)	1 (25)	

Source: Primary Survey

Table-8.9 indicates that, automation of the engineering college libraries. 75% libraries under the study have done library automation by using LMS, LIBMAN and

LIBSYS software's whereas, only one college library namely Goa College of Architecture is not automated its library operations.

Table 8.10: Status of Library Automation.

Sl. No	Name of the institutions	Completely Automated	Partially Automated	At Initial Stage	Not Started
1	PCCE	-	1 (25)	-	-
2	GCE	-	1 (25)	-	-
3	GCA	-	-	-	1 (25)
4	BITS	1 (25)	-	-	-
	Total	1 (25)	2 (50)	-	1 (25)

Source: Primary Survey

Table-8.10 shows that, status of library automation. 50% libraries are partially automated, one library is completely automated, and another one college library is not at all started the automation of the library.

Table 8.11: Stage of Partial Automation.

Sl. No	Name of the institutions	Circulation Section Automated	OPAC	Journals Section
1	PCCE	(25)	(25)	-
2	GCE	-	(25)	-
3	GCA	-	-	-
4	BITS	1 (25)	1 (25)	1 (25)
	Total	2 (50)	3 (75)	1 (25)

Source: Primary Survey

A stage of library automation is depicted in Table-8.11. 75% of the college libraries are having Online Public Access Catalogue in their libraries, 50% college libraries are automated their circulation section and 25% libraries automated their journals section also. We can say that BITS library is giving completely automated services to its users.

Table 8.12: Library Services.

Services provided by the Library	Availability	PCCE	GCE	GCA	BITS	Total
CAS	**Yes**	1 (25)	-	1 (25)	1 (25)	3 (75)
	No	-	1 (25)	-	-	1 (25)

SDI	**Yes**	1 (25)	-	1 (25)	1 (25)	3 (75)
	No	-	1 (25)	-	-	1 (25)
Reprographic	**Yes**	1 (25)	1 (25)	1 (25)	1 (25)	4 ((100)
	No	-	-	-	-	-
Internet	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Electronic Bulletin Service	**Yes**	-	-	-	1 (25)	1 (25)
	No	1 (25)	1 (25)	1 (25)	-	3 (75)
Database Searching	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Online Services	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Current Events/News	**Yes**	-	1 (25)	1 (25)	1 (25)	3 (75)
	No	1 (25)	-	-	-	1 (25)
Home Page Services	**Yes**	-	-	-	1 (25)	1 (25)
	No	1 (25)	1 (25)	1 (25)	-	3 (75)

Source: Primary Survey.

The information about the library services provided by the respondent libraries under the study is displayed in the table-8.12. It reveals that, PCCE College is providing CAS, SDI, reprographic, internet, data base search and online services to their users. GCE College is also providing the following services to the users such as reprographic, internet, data base search, online services, and current events services. Whereas GCA College is providing CAS, SDI, reprographic, and current events services to its users. Finally BITS is providing all the above mentioned library services such as CAS, SDI, reprographic, internet, Electronic bulletin, data base search, online services, current events, and homepage services to their users.

Table 8.13: CD-ROM based Services.

Sl. No	**Name of the institutions**	**CD-Rom-based Services**		**Periodicity of CD-Rom based Services**		**No. of users getting CD-Rom based Services**		**No. of CD-ROMs Purchased**	
		Yes	**No**	**No**	**Daily**	**No**	**21 to 30**	**No**	**20 to 30**
1.	PCCE	-	1 (25)	1 (25)	-	1 (25)	-	1 (25)	-
2.	GCE	1 (25)	-	-	1 (25)	-	1 (25)	-	1 (25)
3.	BITS	1 (25)	-	-	1 (25)	-	1 (25)	-	1 (25)
4.	GCA	-	1 (25)	1 (25)	-	1 (25)	-	1 (25)	-
	Total	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)	2 (50)

Source: Primary Survey

Table-8.13 shows CD-Rom based services provided by the engineering college libraries under the study. Two libraries namely GCE and BITS are providing CD-Rom based services to 21 to 30 users daily, and they have also purchased 20 to 30 CD's for their library respectively. Other two colleges under the study either they do not providing this services or they have not provided the data in this respect.

Table 8.14: Computer/Internet service in the Library.

Service provided by the Library	Availability	PCCE	GCE	GCA	BITS	Total
e-mail	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Reaching out to other libraries	**Yes**	1 (25)	-	-	1 (25)	2 (50)
	No	-	1 (25)	1 (25)	-	2 (50)
Surfing materials	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
To store facts and data	**Yes**	1 (25)	-	-	-	1 (25)
	No	-	1 (25)	1 (25)	1 (25)	3 (75)
Communicate with other colleagues	**Yes**	1 (25)	-	-	1 (25)	2 (50)
	No	-	1 (25)	1 (25)	-	2 (50)
Access to bibliographic information	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
To locate materials/information for users	**Yes**	1 (25)	1 (25)	-	-	2 (50)
	No	-	-	1 (25)	1 (25)	3 (75)
To access and make available e-book and Journals	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Check new titles	**Yes**	1 (25)	1 (25)	-	1 (25)	3 (75)
	No	-	-	1 (25)	-	1 (25)
Update the Library web pages	**Yes**	1 (25)	-	-	1 (25)	2 (50)
	No	-	1 (25)	1 (25)	-	2 (50)
To conduct database search	**Yes**	1 (25)	-	-	1 (25)	2 (50)
	No	-	1 (25)	1 (25)	-	2 (50)
Download the information for library users	**Yes**	1 (25)	-	-	1 (25)	2 (50)

Source: Primary Survey

The information about the usage of computer/internet services under the study is displayed in the table-8.14. It reveals that, three college libraries are using computer/internet for communication, surfing for materials, to access to bibliographic information, to access and make available of electronic books and journals to their users and to check new titles in the market. Two college libraries under the study are using the computer/internet for reaching out to other libraries in search of books and other materials, to communicate with other colleagues, to locate reading materials/information for users, to update the library web page, to conduct database

search, to download the information for users. Only one college library use the computer/internet to store facts and data in the computer. This table highlights that, all the respondent libraries are well versed with the computer and internet operations.

9. Findings

1. 50 percent of the librarians are aged between 41 to 45 years of age, and 75 percent of these librarians are having 16 to 20 years of experience. It shows that, these librarians are more experienced.
2. Existing library staff strength, both professional and non-professional is highly inadequate to perform library services efficiently and effectively.
3. Goa College of Architecture has very poor collection of books, journals and other library materials and BITS library is having rich collection in their library. None of the college libraries are having patents, conference proceedings, gazette notifications, floppies and microfilms.
4. Except PCCE library, other libraries are not allotted the library fund for IT application purpose in the last five year period.
5. All the engineering college libraries are providing reprographic facility in their libraries; only BITS library is providing electronic bulletin service to its users. It is very interesting to know that, Goa College of Engineering is not providing CAS service and PCCE is not providing Current Events/News services to its users.
6. Except Goa College of Architecture all the college libraries have computerized their library, only BITS library is completely automated, PCCE library is computerized its circulation section and providing OPAC service to its users. It is interesting to know that, the oldest government college GCE is providing only OPAC service.
7. All the engineering college libraries are having information technology infrastructure and providing internet related services to its users except GCA library.
8. Majority of the librarians are using email, internet surfing to find out library materials, access to bibliographic information, to check new titles, to access and make available e-book and journals to their readers.

10. Recommendations

1. Library staff strength should be increased as there is a acute shortage of library staff compared to their users strength, resources, services available in the respective college libraries.
2. To make more use of journals / magazines librarian should bring international/national level subject related journals in both print and electronic format. At the same time librarian has to make awareness about the journals by getting Xerox copy of the contents pages and sending it to all the related faculties for circulation and put one copy on the library notice board so,

students will also aware of these journal contents and make use of these resources.

3. To increase the daily users of the library, library should have more number of anti-virus installed computers connected with high speed internet connectivity, and skilled staff (computer technician/operator) to solve the problems and to guide the users in using the e-resources in the library.
4. Librarian has to take initiation in computerization of all the library housekeeping operations for the easy of library administration as well as students and staff use of OPAC.
5. The most important function of a library staff is to give prime importance to accessibility of library resources and provide comfortable environment for the study.

11. Conclusions

The management of information from a wide range of sources is a basic ingredient in the success of any library. The information explosion around the world is increasing enormously and the libraries simply cannot manage the huge amount of information manually without the use of modern IT tools and techniques. Libraries should acquire modern tools and techniques time to time for providing effective information to their user community in a shortest possible time.

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