

Full Length Research Paper

A study on the effective use of online public access catalogue at the libraries of engineering colleges in Karnataka (India)

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This paper aims to present the results of a survey conducted to determine the effective use of online public access catalogue (OPAC) at the libraries of engineering colleges in Karnataka. The paper examines the results from a questionnaire-based survey conducted at the libraries of engineering colleges in Karnataka. 1716 samples of the questionnaire was distributed randomly between the staff and students of engineering colleges across Karnataka, out of which 1338 completed and valid questionnaires (77.97%) were received for analysis. The data received from the respondents through these questionnaires was analysed. Some of the major constraints for the use of OPAC at the libraries of engineering colleges were found to be 1) Lack of awareness of between user community 2) OPAC is not user friendly software 3) Information technology (IT) competency between user communities was lack luster. Thus, the study clearly highlighted the need for an education programme module for users to promote the effective usage of OPAC. An attempt is made through this study to present the difficulties faced by users at engineering college libraries, in searching information using OPAC. This paper provides useful empirical evidence for librarians and the research community on the usage of OPAC in libraries of engineering colleges. The results of this study will be useful for librarians at engineering colleges in Karnataka and also to other librarians around the state and country. This paper provides original data from library end users in engineering colleges, regarding their experience while using OPAC.

Key words: OPAC, online public access catalogue, library automation, engineering colleges, libraries, effective usage.

INTRODUCTION

Academic scenario in library has undergone a tremendous change presuming newer dimension, influenced by technology driven applications in the passed years. Libraries are mainly entrusted with a host of predetermined tasks like acquiring, organizing, preserving, retrieving and disseminating information to the users. IT has influenced the very nature of libraries in engineering colleges; they are undergoing significant changes today not only in outlook but also in function, services, methods and techniques for collection development, processing

and dissemination of information.

Karnataka is one of the developed southern states of India with serene environment and abundant natural resources with Bangalore as its capital city. It is also one of the prominent places for technical education in India, it holds 90% of private and 10% of government institute population in the country. Karnataka has 128 engineering colleges, which includes 3 deemed universities, that is, Manipal Academy of Higher Education (MAHE), National Institute of Technology Karnataka (NITK), Amrita Vishwa Vidyapeetham University (AVVPU) and 2 university constituent colleges, that is, U.B.D.T. College of Engineering affiliated to Kuvempu University and University Visveswaraiah College of Engineering affiliated to Banga-

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lore University. Among these 128 colleges there are 88 colleges have automated their library housekeeping operations. Hence the investigator has made an attempt to collect data from automated functional areas of the library, that is, Acquisition, Serials Control, Catalogue, Circulation and OPAC modules. This paper was undertaken to investigate only the use of OPAC module at the libraries of engineering colleges. The researcher found only 43 suitable out of 88 automated engineering colleges for this study.

Literature study

User and usage studies on OPAC are numerous and there exists good number of reviews of OPAC studies appearing in literature as early as from 1983; however these studies were mostly carried out among the academic staff and students of institutes and colleges, who were the most frequent users. After a 30 month transaction, analysis of patron search on OPAC of Ohio State University, (Norden and Lawrence, 1981) found that the use of OPAC, increased rapidly over a period of time (Quoted from Hildreth, 1985). The relative use of subject index in OPAC varied widely from 10 to 62% in different studies. In the famous CLR project use of OPAC was found to constitute the majority (59%) of usage (Mathews et al., 1983). But, Larson found a gradual decline in the use of OPAC, the frequency of title key word searching exceeded that of subject searching over a period (Larson, 1991). However, Anderson remarked in his paper that on inventory process and emerging use of OPAC is much more sophisticated. The ways in which these revolutionary ideas are likely to be expanded and developed for more user friendliness soon are discussed (Anderson, 2000). Whereas, when the library at Devi Ahilya University is started to provide access to online public access catalogue, respondents thought that must be an appointed staff to help user and help in retrieving the required documents. The study conducted by Rajput, Naidu and Jadon (2008). on "Utilization and Satisfaction of users about OPAC" also highlights the suggestions made by the user community for further improvement (Rajput, Naidu and Jadon, 2008).

Sridhar (2004) carried out a comparative study of use of OPAC and card catalogue of the library at ISRO. The study examines for the declining use of OPAC by end-users and the associated problems like the present data highlighting, negligible use of Boolean operators and combination searches, too many records tagged, too broad descriptors, etc. It concludes that, moving from traditional card catalogue to modern OPAC has not made subject searching, more attractive and effective (Sridhar, 2004). Tanja and Maja, (2008). in the study draws attention to some important issues concerning Web 2.0 trends for OPAC. They observed that at this point, none of the catalogues offered as vast as a range of features, as

Amazon did but one catalogue managed to surpass Amazon in some of the examined features (Tanja and Maja, 2008). Another study revealed that regardless of user's IT backgrounds of the functionality, expectations of OPAC remained the same, which is to facilitate easier access to the collection. However, based on user's experience with OPAC, their requirements with respect to specific features may change (Elahe, 2008; Gheorghita and Sherry, 2008).

Lena Dilger discussed the usability of OPAC systems in large libraries with a color-coded classification system showing the status of the book likes the green highlight for available books, yellow highlight for borrowed and red highlight for reference copies (Lena Dilger, 2008). The behavior of academical library users has drastically changed in recent years. Internet search engines have become the preferred tool over the library OPAC. Jia and Cathy (2008). in their study, attempted to find the answers to the following questions: Why is the current OPAC ineffective? What can libraries and librarians do to deliver a OPAC that is as good as search engines to serve their users in a better way? Revitalizing the library OPAC is one of the pressing issues that has to be accomplished (Jia and Cathy, 2008).

A study by Adedibu (2008) at the University of Ilorin investigates catalogue use by science students. A questionnaire was randomly distributed to 500 users in the 2004/ 2005 session; the preponderance of the respondents (90.1%) used the library catalogue to gain access the library stock; three-quarter (74%) claimed to know, how to use both the card catalogues and the OPAC. The users of the OPAC represented a small portion with 33 respondents (7.9%). The study also showed that many respondents (192 or 46.3%) preferred the Subject Catalogue, one fourth (111 or 26.7%) preferred the Author/Title and about a fifth (88 or 21.2%) preferred a combination of Author/Title and Subject Catalogues. The use of library catalogues increase as the respondent's progress in their academical career. This paper concludes that the effective "Library User Education" based on subject would be more beneficial to the users (Adedibu, 2008).

In the study on the applicability and utility of OPACs in 5 libraries in New Delhi, a questionnaire was distributed randomly to 128 users of which 100 were selected for analysis. The study revealed that OPAC is still one of the most important interfaces among the user and the collection of library. A study on the effectiveness of a OPAC is useful in this respect. However, the data showed that a high percentage of respondents were using the OPAC as a search tool for retrieving documents. Also, most of the users handled the OPAC themselves. Significantly, the satisfaction level of users rose higher as with the availed OPAC facilities. Nevertheless, not many users were aware of the expert searches provided by OPAC. The Librarians, especially those from the developing nations, may choose their library software

Table 1. List of engineering colleges under the study.

Alpha College of Engineering
Amritha School of Engineering
Anjuman Engineering College for Men
Appa Institute of Engineering and Technology
Atria Institute of Technology
B M S College of Engineering
B M S Institute of TechTechnology
B N M Institute of Technology
Bangalore Institute of Technology
Bapuji Institute of Engineering and Technology BVB College of Engineering and Technology C M R Institute of Technology
Coorg Institute of Technology Dayanada
Sagar College of Engineering Don Bosco Institute of Technology
Dr. Ambedkar Institute of Technology
East Point College of Engineering
Global Academy of Technology H K B
K College of Engineering
JSS Academy of Technical Education
M S Ramaiah Inst. of Technology M V J College of Engineering
Manipal Institute of Technology
Nagarjuna College of Engineering and Technology National Institute of Engineering
New Horizon College of Engineering Nitte
Meenakshi Institute of Technology P E S College of Engineering P E S Institute of Technology
P E S School of Engineering
PDA College of Engineering
R N S Institute of Technology
R V College of Engineering
Reva Institute of Eng and Technology S
B Mahaveer Jain Col of Engineering S J
B Institute of Technology S J College of Engineering
SDM College of Engineering and Technology Sir M V Institute of Technology
Sri Venkateshwara College of Engineering
Sri. B.V.V. S's Basaveshwar Engineering College The Oxford College of Engineering U. V. College of Engineering

packages keeping in view the user's expectation with respect to OPACs (Ansari, 2008)

A study by Christopher (2008) considered the usefulness of OPAC to library users. I suggested OPACs should be more user- friendly and the study outlines several ways in which the available library catalogues can be made more accessible. These included translating

catalogue data into terms that the library user understands, making books more easily accessible via OPACs and fostering a sense of community around library collections (Harris, 2008).

A literature study shows that in many studies, researchers made a comparison between the usage of card catalogue and OPAC. However, the present study investigates the use of OPACs with specific reference to the libraries of engineering colleges. This research study, described in the paper, also demonstrates that the use of OPAC has increased and that there has been an effective use among the staff and students in the present times. This study attempts to discover an effective way of searching information through OPAC at the libraries of engineering colleges in Karnataka state.

Need and objectives of the study

The usage of OPAC has brought about enormous changes in the library practices. Further more, it has made the library collection, easily accessible to everyone by breaking the physical boundaries of the library. It is also necessary to find out the usage of the OPAC from time to time, so that the necessary measures can be started for better utilization of this service.

This study focuses on the effective use of OPAC at the libraries of engineering colleges in Karnataka. Further, an attempt has been made to know the information requirements of the end users and to what extent OPAC is able to meet their requirements in this profile. The objectives of this study are:

- i) To study the status of OPAC facilities at the libraries of engineering colleges in Karnataka.
- ii) To know the status of library automation in Engineering college libraries in Karnataka.
- iii) To study the purpose and utilization of the OPAC services by the library users including students, research scholars, teachers and other non-teaching staff.
- iv) To suggest, suitable measures to improve the OPAC services for the benefit of users.

METHODOLOGY

As the researcher was desirous to analyze samples from each individual respondent, the sampling method had been adopted to obtain response from respondents. The study used and adopted questionnaire-based survey. Keeping in mind the objective of collecting user data from different areas for this study, the structured questionnaires were distributed to 1075 undergraduate students, 430 faculty, 155 postgraduate students and 56 researchers of the following 43 engineering colleges across the state of Karnataka: The following Table 1 gives the list of all engineering colleges taken for the proposed study.

Presently in Karnataka state there are 128 engineering colleges, out of which only 43 colleges are providing OPAC search facility to the end users. In the present study totally 1716 numbers of questionnaires were distributed randomly, out of which 1338 were re-

Table 2. Distribution of questionnaires and responses received.

Category of users	No. of questionnaires distributed	No. of questionnaires received	% of responses
	Total	Total	
UG students	1075	841	78.23
Faculty	430	364	84.65
Postgraduate students	155	104	67.10
Researcher	56	29	51.79
Total	1716	1338	77.97

Table 3. Age-wise distribution of respondents

Sl. No.	Age in years	Categories of users				Total
		UGS	PGS	R	F	
1	Less than 20 Years	99 (11.77)	0 (0.00)	0 (0.00)	0 (0.00)	99 (7.40)
2	20 - 25 Years	721 (85.73)	70 (67.31)	14 (48.28)	163 (44.78)	968 (72.35)
3	25 - 30 Years	21 (2.50)	31 (29.81)	13 (44.83)	109 (29.95)	174 (13.00)
4	30 - 35 Years	0 (0.00)	3 (2.88)	2 (6.90)	75 (20.60)	80 (5.98)
5	35 - 40 Years	0 (0.00)	0 (0.00)	0 (0.00)	12 (3.30)	12 (0.90)
6	More than 40 Years	0 (0.00)	0 (0.00)	0 (0.00)	5 (1.37)	5 (0.37)
Total		841 (100.00)	104 (100.00)	29 (100.00)	364 (100.00)	1338 (100.00)

Note: Figures given in parentheses indicate percentages in respective category of users.
UGS = Under Graduate students, PGS = Postgraduate Graduate students, R = Researchers, F = Faculty.

ceived duly filled in, with all the relevant information requested. The analysis was based on the responses received from the users.

ANALYSIS OF COLLECTED DATA

Distribution of questionnaires and the responses received

The questionnaires were distributed to the respondents and the responses received from them are presented in Table 2. From the Table 2, 1716 questionnaires were distributed to the different respondents of engineering colleges in Karnataka and the response rate was 77.97%. Among the total responses 841 respondents are UG students, 364 respondents are faculty. However 104 respondents are PG student community and only 29 respondents are researchers.

Age-wise distribution of respondents

Table 3 shows that age group of the respondents. It has been observed that, 99 (7.40%) respondents belonged to the age group of less than 20 years. Among them most of the users were under-graduate students. Further 968 (72.35%) respondents belonged to the age of 20 - 25 years, followed by 174 (13.00%) of respondents belonged to the age group of 25 - 30 years. 80 (5.98%) respondents were in the age group of 30 - 35 years, 12 (0.90%) respondents were in the age group of 35 - 40 years. Remaining 5 (0.37%) respondents were in the age group of more than 40 years. The chi-square calculated value = 544.842; $P < 0.000$ was found, significant.

This study indicates that the major population surveyed belonged to the students group, followed by the faculty and then, researchers, etc. It is obvious that the students are more IT savvy and feels comfortable in accessing

Table 4. Category-wise distribution of respondents.

Sl. No.	Category of users	No. of respondents	Percentage
1	UG Students	841	62.86
4	Faculty	364	27.20
2	Postgraduate (PG) Students	104	7.77
3	Researcher	29	2.17
Total		1338	100.00

Table 5. Gender-wise distribution of respondents.

Sl. No.	Category of Users	Category of Users				Total
		UGS	PGS	R	F	
1	Male	489 (58.15)	80 (76.92)	24 (82.76)	192 (52.75)	785 (58.67)
2	Female	352 (41.85)	24 (23.08)	5 (17.24)	172 (47.25)	553 (41.33)
Total		841 (100.00)	104 (100.00)	29 (100.00)	364 (100.00)	1338 (100.00)

Note: Figures given in parentheses indicate percentages in respective category of users
 UGS = Under Graduate students, PGS = Postgraduate Graduate students, R = Researchers,
 F = Faculty.

computers.

Category-wise distribution of respondents

Table 4 exhibits that 841 (62.82%) respondents were under-graduates and 364 (27.20%) of the respondents formed the faculty. At the same time 104 (7.77%) users were postgraduates, followed by 29(2.17%) respondents, who were researchers.

Gender-wise distribution of users

Table 5 exhibits that 785 (62.08%) users were males. Out of which 489 were undergraduate students, 192 were faculty, 80 were post-graduate students and the remaining 24 respondents were researchers, whereas, only 553 (41.33 %) users were female, out of which 352 were undergraduate students, 172 faculty members, 24 were post- graduate students and remaining 5 respondents were researchers. The chi- square calculated value = 26.591; $P < 0.000$ was found to be significant.

Details about library software used for library automation

Here the investigator has made an attempt to collect data relating to the library software packages used by the libraries of engineering college in Karnataka coming under this study. The data so collected is analyzed and presented in Table 6

Table 6. Details of library software used for automation.

Sl. No.	Name of the software	No. of libraries	Percentage
1	Libsoft	11	25.58
2	EasyLib	6	13.95
3	Netlib	4	9.30
4	Smart Campus	4	9.30
5	LiMS	3	6.98
6	ie-Lib	2	4.65
7	E-Granthalaya	2	4.65
8	SOUL	2	4.65
9	Libsuite	1	2.33
10	SLIM ++	1	2.33
11	Chancellor	1	2.33
12	Pal Pup	1	2.33
13	NewGenLib	1	2.33
14	Libsys	1	2.33
15	YLAS	1	2.33
16	IOZEN	1	2.33
17	Lib-Manager	1	2.33
Total		43	100.00

Table 6 shows that, out of 43 engineering college libraries; here 11 (25.58%) libraries are using Libsoft, while 6 (13.95%) libraries are using EasyLib. Whereas 4 (9.30%) libraries are using NetLib and 4 (9.30%) libraries

Table 7. Distribution of frequency-wise and category-wise use of OPAC.

Sl. No.	Frequency	Category of Users				Total N=1092
		UGS N=662	PGS N=81	R N=21	F N=328	
1	Daily	452 (68.28)	14 (17.28)	18 (85.71)	215 (65.55)	699 (64.01)
2	Once in two days	122 (18.43)	12 (14.81)	6 (28.57)	72 (21.95)	212 (19.41)
3	Once in a week	140 (21.15)	39 (48.15)	2 (9.52)	17 (5.18)	198 (18.13)
4	Twice in a week	107 (16.16)	14 (17.28)	3 (14.29)	28 (8.54)	152 (13.92)
5	Once in two weeks	15 (2.27)	14 (17.28)	0 (0.00)	11 (3.35)	40 (3.66)
6	Once in a month	5 (0.76)	11 (13.58)	0 (0.00)	21 (6.40)	37 (3.39)

Note: Figures given in parentheses indicate percentages in respective category of users
 UGS = Under Graduate students, PGS = Postgraduate Graduate students, R = Researchers,
 F = Faculty
 Total percentage will not be hundred because responses are more than one.

are using Smart Campus. Similarly, 3 (6.98%) libraries are using LiMs software followed by ie-Lib, E-Grantha=laya, SOUL software packages are used by each 2 (4.65%) libraries. The software which is single installations are Libsuite, SLIM++, Chancellor, Pal Pup, NewGenLib, Libsys, YLAS, IOZEN and Lib-Manager and they are represented as 2.33% of the total respondents. It is observed from the study that, a large majority of respondents are using Libsoft for library automation.

Use of OPAC services

Graph 1 depicted the usage of OPAC at the libraries of engineering colleges in Karnataka. The study has identified that, 1092 (81.61%) of respondents were using OPAC. Among them 662 were under-graduates, 328 were faculty members and 81 were postgraduates, the remaining 21 respondents were researchers. Similarly 246 (18.39%) of respondents were not using this facility, among them 179 were undergraduates, 36 were faculty and 23 were post-graduates. Only 8 respondents were researchers.

As stated in the previous paragraph, the students need more information for their academic pursuits. The colleges are nowadays, offering too many job oriented professional courses and it has become imperative, for the students to use modern technologies in fulfilling their academic requirements.

Frequency of OPAC usage

It is necessary to find out how frequently, the staff and

students make use of the OPAC facility, which is shown in Table 7. A question was asked to find the frequency of OPAC usage. The results showed that 699 (64.01%) of the respondents were using it daily, 212 (19.41%) of the respondents used it, once in two days. 198 (18.13%) used it, once in a week and 152 (13.92%) used it, twice in a week. Similarly 40 (3.66%) of the respondents used it, once in 2 weeks, Only 37 (3.39%) of them used it, occasionally. Nearly 55 % of the members used the OPAC at library, almost every day.

Locating required information in the library and OPAC

Table 8 showed how the users chose their books and other materials for their study. Analysis showed that 1092 (100.00%) of them chose the OPAC for finding information about books and other reading materials, 447 (40.93%) of them directly go to the shelves and browse books, without using OPAC. Nearly 437 (40.02%) of them got the required information with the help of library staff. Similarly 225 (20.60%) of them get their materials by consulting from the card catalogue, followed by 272 (24.91%) of the surveyed users, who got the information through peers.

From the table above, it is clear that OPAC has made a beginning with the users and will definitely dominate the scene in the years to come.

Usage of library OPAC

Table 9 depicts the distribution of respondents on the ba-

Table 8. Locating required documents in the library OPAC.

Sl. No.	Locating documents	Category of Users				Total N=1092
		UGS N=662	PGS N=81	R N=21	F N=328	
1	Through OPAC	662 (100.00)	81 (100.00)	21 (100.00)	328 (100.00)	1092 (100.00)
2	Browsing book(s) on shelves	239 (36.10)	67 (82.72)	19 (90.48)	122 (37.20)	447 (40.93)
3	Consulting library staff	177 (26.74)	21 (25.93)	21 (100.00)	218 (66.46)	437 (40.02)
4	From card catalogue	38 (5.74)	58 (71.60)	19 (90.48)	110 (33.54)	225 (20.60)
5	Through help from friend(s)	187 (28.25)	44 (54.32)	19 (90.48)	22 (6.71)	272 (24.91)

Note: Figures given in parentheses indicate percentages in respective category of users.
UGS =Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty.

Table 9. Usage of library OPAC.

Sl. No.	Usage	Category of users				Total
		UGS	PGS	R	F	
1	Only library premises	314 (47.43)	54 (66.67)	11 (52.38)	198 (60.37)	577 (52.84)
2	Stand alone system	187 (28.25)	9 (11.11)	4 (19.05)	99 (30.18)	299 (27.38)
3	Wide Area Network (Internet)	99 (14.95)	6 (7.41)	1 (4.76)	8 (2.44)	114 (10.44)
4	College campus network	62 (9.37)	12 (14.81)	5 (23.81)	23 (7.01)	102 (9.34)
Total		662 (100.00)	81 (100.00)	21 (100.00)	328 (100.00)	1092 (100.00)

Note: Figures given in parentheses indicate percentages in respective category of users.
UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty

sis of the usage of OPAC in their respective libraries. It showed that 577 (52.84%) of the respondents were using OPAC, in their library premises and 299 (27.38%) of the respondents were using the OPAC, through the stand alone system in their library. Nearly 114 (10.44%) of the respondents browsed OPAC through the Wide Area Network (Internet). Similarly 102 (9.34%) of the respondents got their access through the network at college campus. The chi-square calculated value = 63.207; $P < 0.000$ was found significant.

Purpose of using the library OPAC

Table 10 depicted that a majority 986 (90.29 %) of the respondents consult the OPAC to know the location of books in the library, followed by 619 (56.68%) and 804 (73.63%) to find the non-print materials or to check

whether the required book was available in the library or not. Similarly 667 (61.08%) of the respondents consulting OPAC to compile bibliography of the books on a particular subject, 554 (50.73%) used OPAC to check the number of copies of the required books in the stock and 601 (55.04%) respondents did not respond to this query.

Usage of library OPAC

Table 9 depicts the distribution of respondents on the basis of the usage of OPAC in their respective libraries. It showed that 577 (52.84%) of the respondents were using OPAC, in their library premises and 299 (27.38%) of the respondents were using the OPAC, through the stand alone system in their library. Nearly 114 (10.44%) of the respondents browsed OPAC through the Wide Area Network (Internet). Similarly 102 (9.34%) of the res-

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Sl. No.	Purpose	Category of users				Total N=1092
		UGS	PGS	R	F	
		N=662	N=81	N=21	N=328	
1	To locate the book in the library	660 (99.70)	71 (87.65)	20 (95.24)	235 (71.65)	986 (90.29)
2	To find non-print materials	265 (40.03)	80 (98.77)	19 (90.48)	255 (77.74)	619 (56.68)
3	To check whether the required book is available in the library or not	470 (71.00)	70 (86.42)	18 (85.71)	246 (75.00)	804 (73.63)
4	To reserve the book which is borrowed by some one	305 (46.07)	67 (82.72)	17 (80.95)	278 (84.76)	667 (61.08)
5	To compile bibliography of books on a particular subject	275 (41.54)	66 (81.48)	18 (85.71)	195 (59.45)	554 (50.73)
6	To check the number of copies in library stock	225 (33.99)	61 (75.31)	20 (95.24)	295 (89.94)	601 (55.04)

Note: Figures given in parentheses indicate percentages in respective category of users
 UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty
 Total percentage will not be hundred because responses are more than one

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Users information search on OPAC

Whenever the users want to confirm the availability of a required document in the stock of the library, they can approach the OPAC with any of the search elements viz., author, title, subject or call number, classification number, series and ISBN, shown in Table 11.

Table 11 shows that, 1056 (96.70%) of the respondents approached the OPAC by author, 1012 (92.67%) under the title, 330 (30.22%) approached the OPAC through the subject, similarly 204 (18.68%) and 211 (19.32%) of respondents approached through the accession number and classification number respectively. About 257 (23.53%) respondents did it, under the series search and 150 (13.74%) of respondents searched by ISBN. It is further observed that, when we compare all the approaches of the users, query approach through the

author string is most popular followed by title, subject, series, classification number and call number.

Reason for not using the library OPAC

The study also investigated the reasons for not using the OPAC services by the respondents. From the analysis Table 12, it is evident that, the majority or 245 (99.59 %) of the respondents have faced problems of password protection, 224 (91.06%) and 137 (55.69%) of respondents were not interested due to shortage of terminals and lack of awareness about the facilities respectively. Similarly 128 (52.03%) respondents faced problems, due to improper working of the OPAC module. Nearly 59 (23.98%) respondents said that the OPAC module was not installed, followed by 39 (15.85%) of respondents stated that lack of orientation from library staff. Only 27 (10.98%) of them expressed that they did not get book(s) required. It is further observed from this analysis that most of the respondents were facing the problem of shortage of terminals and lack of guidance or orientation.

Programs for promoting the use of OPAC

The users were facing certain difficulties in making proper use of the OPAC facility. In view of this factor, a question was asked in the questionnaire, whether there is a need for conducting "User Education Programmes" like lectures/talks, seminars/ conferences, orientations /training in using the OPAC module. The results are presented in Table 13.

Table 13 shows that, the majority or 725 (66.39%) users responded for orientation or training programmes in using OPAC and 249 (22.80%) for seminars/conferences

Table 11. Users information search on OPAC

Sl. No.	Searching of information	Category of users				Total N=1092
		UGS N=662	PGS N=81	R N=21	F N=328	
1	By author	660 (99.70)	78 (96.30)	20 (95.24)	298 (90.85)	1056 (96.70)
2	By title	660 (99.70)	69 (85.19)	11 (52.38)	264 (80.49)	1012 (92.67)
3	By subject	144 (21.75)	29 (35.80)	19 (90.48)	138 (42.07)	330 (30.22)
4	By call number	103 (15.56)	22 (27.16)	7 (33.33)	72 (21.95)	204 (18.68)
5	By classification number	125 (18.88)	22 (27.16)	9 (42.86)	55 (16.77)	211 (19.32)
6	By series	112 (16.92)	19 (23.46)	15 (71.43)	111 (33.84)	257 (23.53)
7	By ISBN	15 (2.27)	20 (24.69)	10 (47.62)	105 (32.01)	150 (13.74)

Note: Figures given in parentheses indicate percentages in respective category of users
 UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty
 Total percentage will not be hundred because responses are more than one

Table 12. Reason for not using the library OPAC services.

Sl. No.	Reason	Category of Users				Total N=246
		UGS N=179	PGS N=23	R N=8	F N=36	
1	OPAC access is password protected	179 (100.00)	22 (95.65)	8 (100.00)	36 (100.00)	245 (99.59)
2	Know the facility but Shortage of terminals not interested in using	178 (99.44)	11 (47.83)	6 (75.00)	29 (80.56)	224 (91.06)
3	Not aware of these facilities or	81 (45.25)	15 (65.22)	5 (62.50)	36 (100.00)	137 (55.69)
4	OPAC module is not properly working	79 (44.13)	19 (82.61)	8 (100.00)	22 (61.11)	128 (52.03)
5	No OPAC module is installed	17 (9.50)	20 (86.96)	3 (37.50)	19 (52.78)	59 (23.98)
6	System is not near to stack area	22 (12.29)	10 (43.48)	5 (62.50)	13 (36.11)	50 (20.33)
7	Lack of orientation from library staff	19 (10.61)	2 (8.70)	3 (37.50)	15 (41.67)	39 (15.85)
8	Did not get the book(s) required	15 (8.38)	5 (21.74)	2 (25.00)	5 (13.89)	27 (10.98)

Note: Figures given in parentheses indicate percentages in respective category of users
 UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty
 Total percentage will not be hundred because responses are more than one

to be conducted, 63 (5.77%) were in favour of lectures/talks, Furthermore, 45 (4.12%) of the respondents expected, at least a staff to be posted, near the OPAC module, to provide assistance to the users. Only 10 (0.92%) of respondents wanted some other programs to be conducted, apart from the following listed programmes. In fact, such programmes should have been

initiated by the library, for the better utilization of its electronic services. The chi-square calculated value = 95.686; $P < 0.000$ was found significant.

Assistance from the library staff for using OPAC

In response to the opinion about the assistance from the

Table 13. Programs for promoting the use of OPAC.

Sl. No.	Description	Category of users				Total
		UGS	PGS	R	F	
1	Training	452 (68.28)	49 (60.49)	10 (47.62)	214 (65.24)	725 (66.39)
2	Seminars/Conferences	107 (16.16)	27 (33.33)	4 (19.05)	111 (33.84)	249 (22.80)
3	Lectures/Talks	54 (8.16)	3 (3.70)	5 (23.81)	1 (0.30)	63 (5.77)
4	Stand on services	39 (5.89)	2 (2.47)	2 (9.52)	2 (0.61)	45 (4.12)
5	Any other programmes	10 (.51)	0 (0.00)	0 (0.00)	0 (0.00)	10 (0.92)
Total		662 (100.00)	81 (100.00)	21 (100.00)	328 (100.00)	1092 (100.00)

Note: Figures given in parentheses indicate percentages in respective category of users
UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty

library staff for using OPAC shows in Figure 1. Majority (1000; 91.58%) of respondents has said 'Yes' and 92 (8.42%) of users are not interested in taking assistance. From this Figure 2 it is clear that maximum number of respondents needed assistance from the library staff for using OPAC, to help them in searching the required document(s). Such assistance is also necessary for fulfilling the Fourth Law of Library Science (Save the time of the reader)

Library staff skill and support on information seeking problems

The study found that, a high percentage of users, that is, 415 (38.00%) were happy with the excellent services provided by librarians. 288 (26.37%) and 175 (16.03%) respondents have expressed very good and good respectively, regarding the behavior and skill of library staff. But 120 (10.99 %) and 94 (8.61%) of the respondents have stated average and poor response, to this query. This needs immediate attention by the librarians. The chi-square calculated value = 105.173; $P < 0.000$ was found significant (Table 14).

Opinions of respondents

Some open questions were asked to students to know the opinion of the respondents and to obtain more information about OPAC for various purposes. The respondents were making use of the OPAC for the following purposes:

i) To find out particular book of the author or articles in

journals.

ii) To know the arrival of new journals and other reading materials.

iii) To check the copies of available reading materials.

iv) To collect literature on seminars, thesis, dissertations, etc.

v) For review of literature for the research work.

In this modern age, dominated by information and communication technologies, every human activity is being influenced by IT. The libraries cannot function in isolation but have to embrace IT for providing new services for collecting, organizing, storing, retrieving and dissemination of varied forms of information with high speed and accuracy. Most of the activities in the libraries can be computerized, including the OPAC. The opinions of the respondents can be summarized as below:

i) It saves time and gives quick; accurate and efficient information.

ii) Retrieving of required information is at, a much faster rate.

iii) It is easy to search and to locate documents.

iv) Without wasting much time, one can find the required book or books.

The respondents have suggested the authorities to provide training in the use of OPAC.

Suggestions

Based on the study certain suggestions are given for better utilization of the OPAC service at the libraries of engineering colleges in Karnataka.

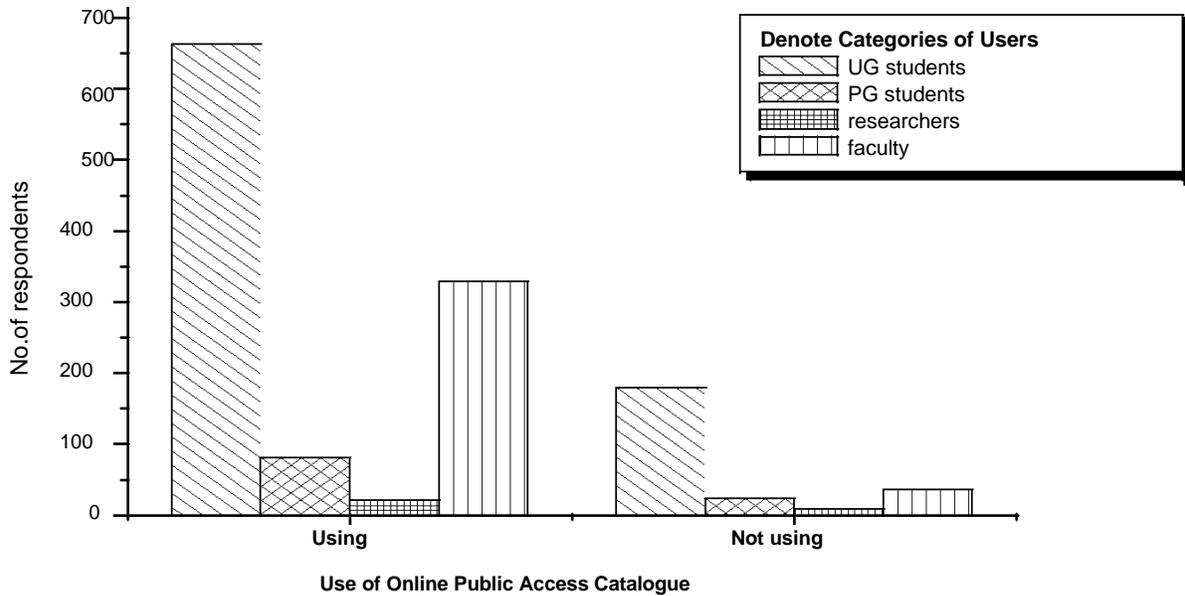


Figure 1. Use of OPAC services.

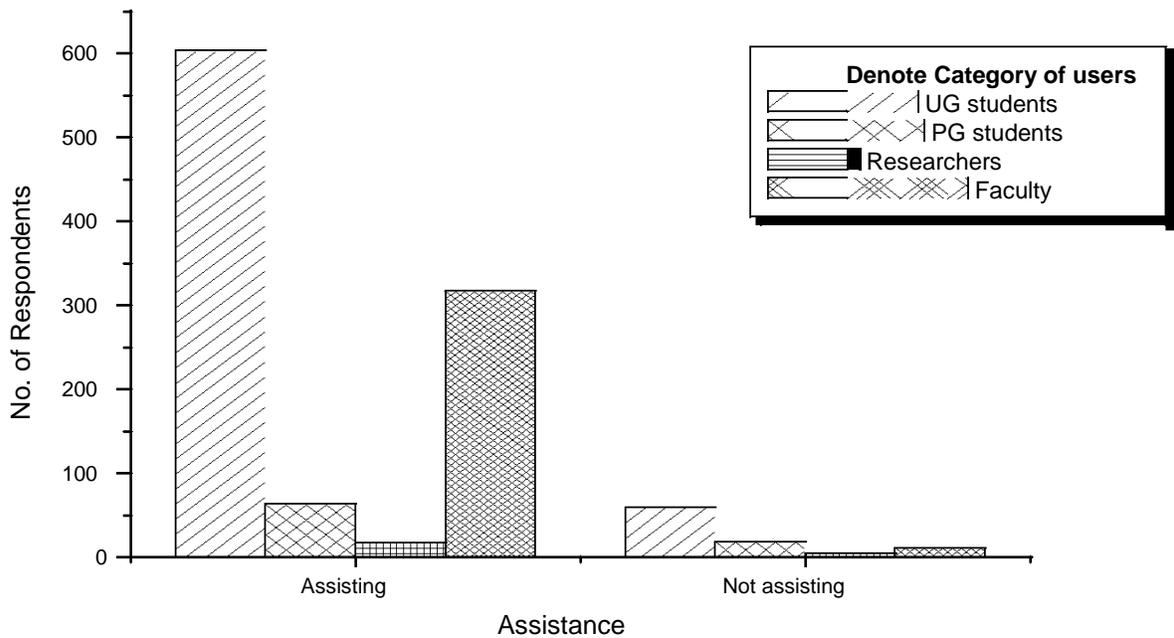


Figure 2. Assistance from the library staff for using OPAC.

- i) Research scholars suggested, keeping OPAC up-to-date by adding new entries quickly and replacing the old entries.
- ii) There is a need to train the users to acquire basic skills in searching. The users suggested be providing with assistance for the use of OPAC, by the library staff and also suggesting for "User Orientation Programmes".

- iii) Few respondents suggested arranging the indexing of the journal articles systematically.
- iv) A large number of respondents suggested circulating the list of newly arrived books and other reading materials.
- v) Research scholars have requested to locate the OPAC closer to the book stack area, so that they can access it

Table 14. Skill and support on information seeking problems.

Sl. No.	Ratings	Category of users				Total
		UGS	PGS	R	F	
1	Excellent	274 (41.39)	31 (38.27)	3 (14.29)	107 (32.62)	415 (38.00)
2	Very Good	161 (24.32)	8 (9.88)	6 (28.57)	113 (34.45)	288 (26.37)
3	Good	96 (14.50)	15 (18.52)	5 (23.81)	59 (17.99)	175 (16.03)
4	Average	64 (9.67)	21 (25.93)	2 (9.52)	33 (10.06)	120 (10.99)
5	Poor	67 (10.12)	6 (7.41)	5 (23.81)	16 (4.88)	94 (8.61)
Total		662 (100.00)	81 (100.00)	21 (100.00)	328 (100.00)	1092 (100.00)

Note: Figures given in parentheses indicate percentages in respective category of users.
UGS=Under Graduate students, PGS=Postgraduate Graduate students, R=Researchers, F=Faculty.

conveniently without wasting much time;

vi) Few respondents suggested for the distribution of up-to-date library guides explaining about how to use the OPAC and other library services, by the library staff.

Conclusion

The OPAC is a very important service for any library system, because this system has helped the users in their information seeking, as stated by the respondents. The search process in OPAC has more or less remained the same, as in the card catalogue but with increased access points, varieties of search features and increased complexity of the process. End-users are not only expected to have technical searching skills but also conceptual and semantic knowledge, relating to the query, in case of subject searching in order to articulate the query. OPAC is an instrument of change in today's libraries. Automated library system in general and specifically online catalogues will continue to be productive and enhance the usage of library collections. The OPACs of different organizations can be used as a union catalogue for better utilization of the resources in a region. Librarians must continue to play the role of an "Agents of Change" in the use of online catalogues.

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ANNEXTURE-1

QUESTIONNAIRE

Name of the respondent			
Name of the Institution			
Age	_____ Years	Gender	Male <input type="checkbox"/> Female <input type="checkbox"/>
Designation (Please tick the appropriate box)		Student <input type="checkbox"/>	Faculty <input type="checkbox"/>
		Researcher <input type="checkbox"/>	Postgraduate <input type="checkbox"/>

Do you access your library (online public access catalogue) OPAC?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If "yes" how you access your library OPAC?		(√)	
(i)	Stand alone system	(ii)	Only library premises
(iii)	College campus network	(iv)	Wide area network

How do you search information from your library OPAC		(√)	
(i)	By author	(ii)	By title
(iii)	By subject	(iv)	By series
(v)	By ISBN	(vi)	Any other _____ (Pl. specify)

On an average how much time takes to find result of a given search?			
(i)	< 2 minutes	(ii)	3 – 4 minutes
(iii)	5 – 6 minutes	(iv)	7 – 8 minutes
(v)	9 – 10 minutes	(vi)	More than 10 minutes

What is the success rate of your search?			
(i)	100%	(ii)	75% to 99%
(iii)	50% to 74%	(iv)	25% to 49%
(v)	< 25%		

How do you satisfied with functions of your library OPAC Module?			
(i)	Poor	(ii)	Average
(iii)	Good	(iv)	Very Good
(v)	Excellent		

Did you ever search in OPAC information of your requirements of Information		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If "yes" in which parameters you tried to access information from OPAC?		(√)	
(i)	Title wise search	(ii)	Author wise search
(iii)	Key word pertain to title	(iv)	Key word pertain to author
(v)	Any other (Pl. specify) _____		

Do you seek the assistance from your library staff for using OPAC?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If "yes" how it helps in locating the information?		(√)	
(i)	To search appropriate document	(ii)	To save time of searching
(v)	Any other (Pl. specify) _____		

ANNEXTURE-1 Contd.

	To enable you for web access of your library OPAC, have been provided with:			
(i)	User ID		(ii)	Password
(iii)	Both user ID & Password		(iv)	Any other (Pl. specify) _____

	How do you rate the search facility in your library OPAC? (Please rate in five point scale: 1- Excellent, 2 – Very-Good, 3 – Good, 4 – Average, 5 – Below-Average)	1	2	3	4	5
(i)	Author search facility					
(iii)	Corporate author search facility					
(iv)	Title search (full title) facility					
(vii)	Search by word from the title					
(viii)	Search by keyword combined					
(ix)	Search by subject					
(x)	Search by using Boolean Operators					
(xi)	Search by accession number					
(xii)	Search by call number					
(xiii)	Search by the shelf mark of a book					
(xiv)	Search by books issued, reserved, withdrawn					
(xiv)	Search by article titles in periodicals					

	In what manner does library staff support on your information seeking problems?			
(i)	Assistance for OPAC search		(ii)	Assistance for Web-OPAC search
(iii)	Locating physical resources from shelf		(iv)	Reminding overdue dates of my account
(v)	Telephone assistance		(vi)	Any other (Pl. specify) _____