

STATUS OF LIBRARY AUTOMATION IN ENGINEERING COLLEGE LIBRARIES IN KARNATAKA

Shivakumar T C

Research Scholar

Department of Library and information Science,

Bangalore University, Bengaluru-560 056

E-mail: shivulis82@gmail.com

Dr. T D Kemparaju

Professor

Dept. of Library and information Science

Bangalore University, Bengaluru-560 056

Abstract:- Information is considered as an essential commodity for all round development of the society in the present knowledge era. Library plays a key role in the dissemination of information, which forms an equally important component of every country, institution imparting education. This study has been conducted to assess the status of the library automation. The target population of this study were the librarians serving in the engineering colleges affiliated to VTU, Karnataka. The structured questionnaire was distributed to 200 colleges, however, there were only 147 colleges (librarians) responded for the study. The article discuss the topics such as Collection organization and Management; Availability of LAN facility in the library; Status of Library Automation; Advantages of Open Source Library Automation Software; Library Automation Software (OSS and Paid) use; Use of Various Open Source Library Automation Software; Areas of Library Automation such as Circulation Control, Serials Management, Acquisition Control, OPAC and Administration; Use of Open Source Digital Library Software; Reasons for the use of open source software; Application of Open Source Software for library services; and Satisfaction by using Open Source Library Software with data and interpretation suitably.

Keywords: Library Automation, Open Source Software, OPAC, Engineering College Library

1.0 Introduction: Information is considered as an essential commodity for all round development of the society in the present knowledge era. Library is plays a key role in dissemination of information, which forms an equally important component of every country, institution imparting education. Library as an organization, identifies, selects, collects, process, store and disseminates information at right time to the right person. Study of library uses Open Source library automation software is relatively important at this juncture. The educational institutions were supported by structured supply of knowledge in the form of tacit, explicit as well as implicit. The knowledge especially articulated-one in the form of explicit existed since the human started to record his experiences on the walls of the caves, skin of the hunted animals, palm leaves, writings on the sculptures, carving on the rocks, inscriptions and so on at various junctures of the development of civilization. Later, the knowledge was stored in the form of books, monographs, manuscripts, handouts and many other media have been stored for the use and for archival purpose for the use by the future generations.

2.0 Library Automation:-Library automation mainly refers to use of computers, to mechanise the overall functions and operations of the library. It is utilization of computer and related tools and technologies to make the provision for providing the right information to right user at the right time in a right format in a most preferred and personal way. Automation of library activities enables the library staff to provide the user with efficient, rapid, effective, and economical service rendering.

The automation is more feasible for both economically as well as timely delivery of services. Various activities and functions subjected to automation includes acquisition, technical processing (cataloguing, classification, indexing and so on), circulation, serials control, Documentation and allied services, Information retrieval, OAPC, administration and reports (metrics) in a typical library environment.

There are many library automation software tools are available in the information science market today. There are two types of library software premium (paid) and open source (OSS) software.

3.0 Factors Influencing the Library Automation

1. Growing Information and Shrinking Space
2. Incensement of Users and organizing the flood of Information
3. Cost hike of printed as well as electronic reading materials and resource sharing
4. Enhancement in budget

4.0 Need for the Study

The development of ICT and its applications have created a huge impact among Libraries and that changed the way Libraries as well as LIS professionals work in providing the information organisation, access and dissemination to the users in a more effective and efficient manner. During the last two decades, the developments in Library software (ILS) area, particularly open source library software (OSLS) has helped many Libraries to modernize the activities and service delivery. It is observed through the study of literature, that a remarkable development of open source software, encouraging support from the developers, implementation and using such open source software in the libraries worldwide by the LIS professional community is a remarkable trend in overall development of modern day libraries. In India, many small, medium and large Libraries have taken keen interest to implement and use many open source library software. The reasons may vary from tech savvy LIS community, software development capabilities among the Indian LIS professionals, broader understanding of the nuances of code development, implementation of turn-key projects in ILS arena, shrinking budgets makes the LIS community to look at alternatives to save cost, proliferation of open source library automation software and so on to quote few. As a result, the open source library automation software such as KOHA and NewGenLib have developed. The Koha and NewGenLib are two classical examples of OSS library automation software, most widely used Integrated Library Management software among the technical education institution libraries. Hence, this study is aimed at to assess the status of library automation in engineering college libraries in Karnataka.

5.0 Objectives of the Study

1. To assess the available Open source integrated library management software
2. To Study the status of library automation in Engineering college libraries in Karnataka
3. To Study the different areas of library automation in Engineering college libraries in Karnataka
4. To study the Application of Open Source Software for library services

6.0 Scope of the Study

The scope of the study is confined to all the Engineering college libraries located in different parts of Karnataka state, that are affiliated to Visvesvaraya Technological University (VTU), Belagavi, Karnataka. There are four regions VTU has divided its affiliated colleges in Karnataka for the purpose of better administration, are Bengaluru, Belgavi, Mysuru and Kalburgi. The present study is confined to all the affiliated engineering colleges to VTU divided into the above said four regions only. The engineering colleges are divided into Government, Private Un-aided (PUA), Private aided (PA), Minority (both Population as well as Language), Rural and Urban.

7.0 Data Analysis**7.1 Respondents of the Study**

The study was taken up through collection of data from the librarians of various engineering institutes affiliated to VTU through a structured questionnaire set for the purpose. The target population of this study were the librarians serving in the engineering colleges affiliated to VTU, Karnataka. The structured questionnaire was distributed to 197 colleges, however, there were only 147 colleges (librarians) responded for the study. This makes 74.61% response rate.

Table-1: Gender Wise Distribution of Respondents

Gender	Respondents	Percentage
Male	111	75.5
Female	36	24.5
Total	147	100.00

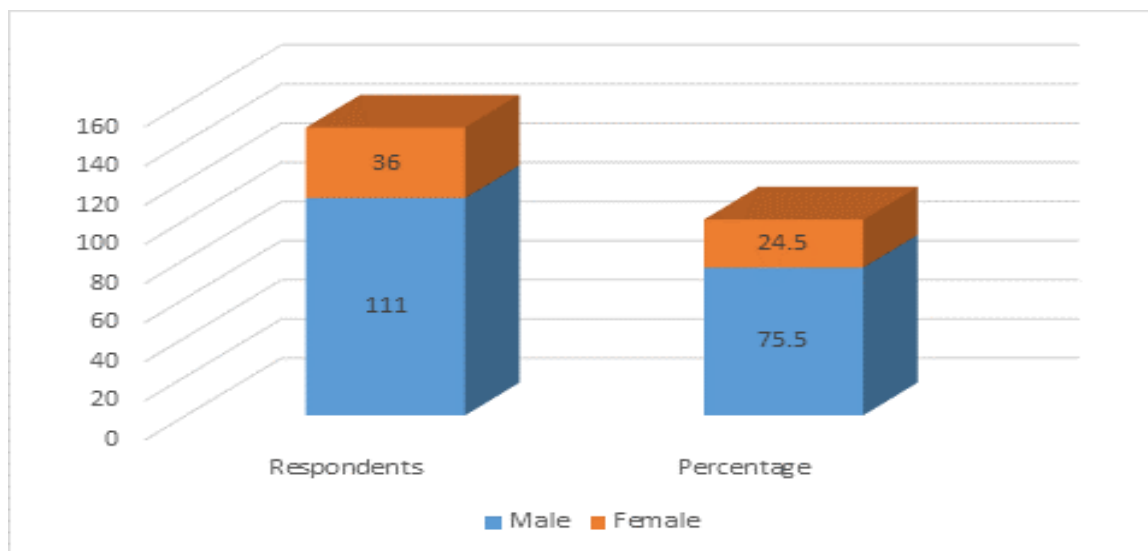


Figure-1: Gender Wise Distribution of Respondents

The structured questionnaire was distributed to 200 colleges, however, there were only 147 colleges (librarians) responded for the study. This makes 73.5% response rate. Among the librarians who have responded for the study, there were 111 (75.5%) male and 36 (24.5%) female. This indicates that a fair share of female librarians' population among the respondents, which is a great news.

Table-2: Gender and Qualification of the Respondents

Gender	Qualification					Total
	MD	MD & PGD	MD & MP	MD, MP & PhD	MD & PhD	
Male	54 (72.97%)	1 (50.00%)	32 (80.00%)	14 (82.35%)	10 (71.42%)	111 (100%)
Female	20 (27.03%)	1 (50.00%)	8 (20.00%)	3 (17.65%)	4 (28.58%)	36 (100%)
Total	74 (100%)	2 (100%)	40 (100%)	17 (100%)	14 (100%)	147 (100%)

Note: MD= Master Degree, PGD=PG Diploma, MP=M.Phil, Ph.D. = Doctor of Philosophy

Data from the above table shows that among the librarians, there are highest number of 74 (100%) Master Degree holders and second best comes from the group of Master degree with MPhil with 40 (22.2%) librarians. Best part of the study is that, when it comes to the respondents holding 'Doctor of Philosophy', a good number of female respondents' feature, which is a good development.

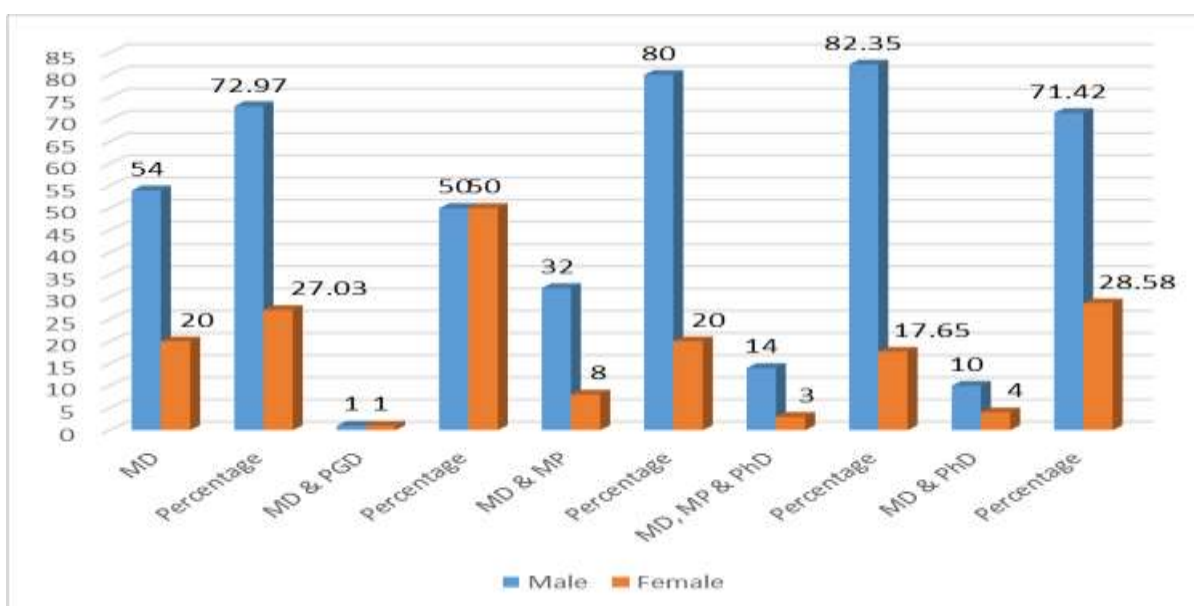


Figure-2: Gender and Qualification of the Respondents

Table-3: Collection Organization and Management

Scheme	Tools	Total
Scheme of Classification	DDC	147 (100%)
Catalogue Code/Rules	AACR2	137 (93.19%)
Subject Heading	LCSH	118 (80.27%)

Data from the above table shows that, when asked for what tools the engineering college libraries would use for better Collection organization and Management, absolute number of respondents use DDC as a scheme of classification (this is a notable development amidst the land of Dr. S R Ranganathan and his Colon Classification); 137 (93.19) use AACR2 as their Catalogue Code/Rules; and 118 (80.27) use LCSH over SCHS as the tools for rendering Subject Headings for their collections. DDC is still the best schema of classification used by the engineering college libraries for the better Collection organization and Management.

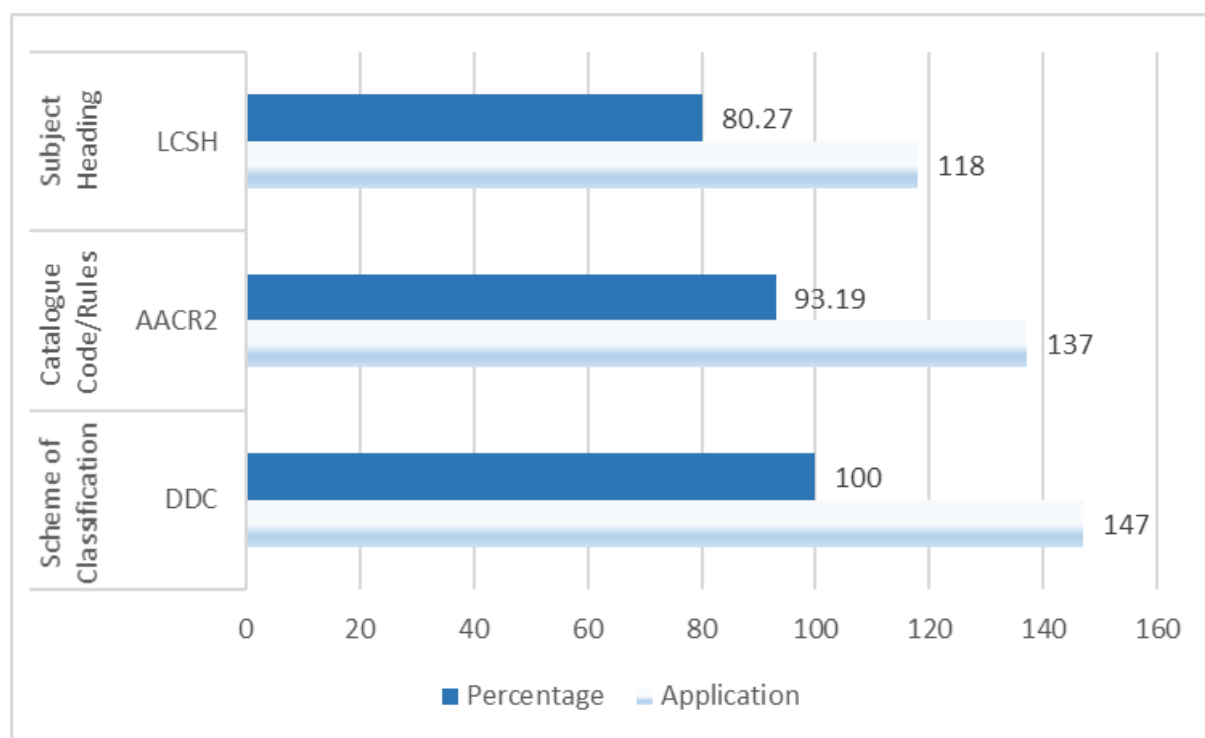


Figure-3: Collection Organization and Management

Table-4: Year of Establish of Colleges

Year	No. of Colleges	Percentage
1938-1972	10	6.80
1979-1988	23	15.65
1993-2000	26	17.69
2001-2006	43	29.25
2007-2012	45	30.61
Total	147	100.00

Data from the above table shows that, there are 10 (6.80) colleges have established over 40 and more years back, 23 (15.65) colleges have got established less than 40 years back. The best part is, 114 (77.55) colleges have got established after 1993, this may be attributed to the liberalization policy which Dr. Manmohan Singh, the then prime minister of India has brought in and as a result many institutions imparting engineering education started blossoming. This trend would be best seen from the graph below.

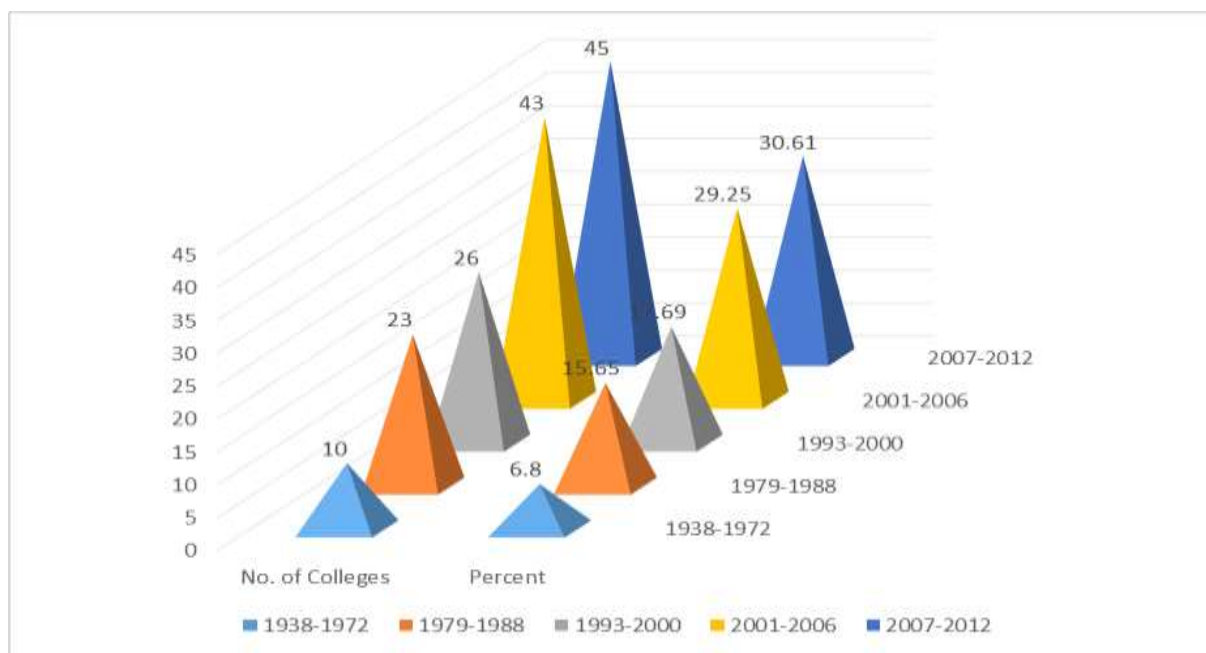


Figure-4: Year of Establish of Colleges

Table-4a: Type of Engineering Colleges

College Type	Bengaluru	Belgaum	Kalburgi	Mysuru	Total
PUA	85	22	12	35	154
PA	2	2	1	4	9
Govt.	6	3	1	6	16
Minority	5	3	3	7	18
Total	98	30	17	52	197

PUA: Private Unaided, **PA:** Private Aided, **Govt.:** Government, **Minority:** Both of community and Language Minority

Table-5: Availability of LAN facility in the library

Response	Frequency	Percentage
Available	143	97.3
Not Available	4	2.7
Total	147	100.0

The investigation in the way of understanding the IT infrastructure facilities available in the engineering colleges posed to assess the availability of LAN connectivity, majority of 143 (97.3) respondents have said that they have LAN access in the library and only 4 (2.7) opined that they don't have LAN facility extended to the library.

Table-6: Status of Library Automation

Automation Status	Response (%)	Mean	Std. Deviation
Not Automated	12 (8.17)	1.90	.307
Partially Automated	26 (17.68)	1.99	.086
Fully Automated	109 (74.15)	1.06	.238

Data from the above table shows the responses on the status of library automation. Out of 147 respondents, majority of 109 (74.15) libraries are 'fully automated', 26 (17.68) are 'Partially Automated' and 12 (8.17) libraries are 'Not Automated' at all. The reason for not automating the engineering may be attributed to the new

institution, or no tech savvy library professional or non-cooperation of the management for the investment involved in the process of library automation.

Table-7: Use of Commercial Library Automation Software

Software	Response	Percentage
DELPLUS	3	2.75
Easylib	40	36.70
EERPMS	5	4.59
e-Granthalaya	4	3.67
ICMS	3	2.75
Libsoft	40	36.70
Libsys	5	4.59
NTLIB	3	2.75
SOUL	4	3.67
T C S	6	5.50
Total	113	100

The question was posed to assess the use of Various Library Automation Software in the engineering college libraries as the data shown in the table above, Easylib and Libsoft with 40 (36.70.21) apiece use the most, incidentally both the software is proprietary with good number of features aiding the libraries. TCS 6 (5.50), Libsys with 5 (4.59), as Libsys being the oldest and most comprehensive software evolved out of India, is less used then its usual, the reasons may be that of high purchase and maintenance cost with poor customer support.

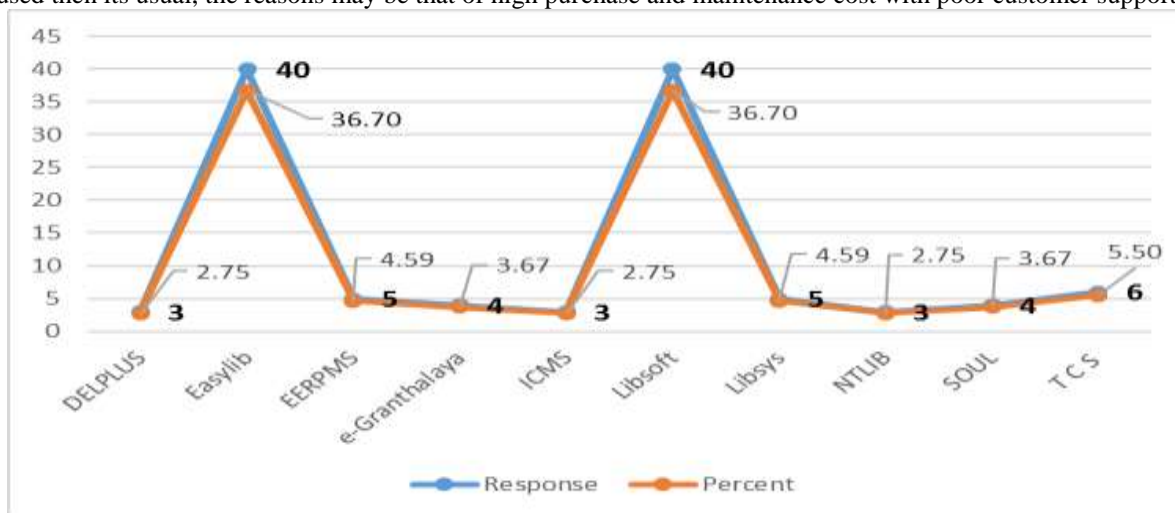


Figure-7: Use of Commercial Library Automation Software

Table-8: Use of Open Source Library Automation Software

Software	Use	Percentage
Koha	19	55.88
NewGenLib	15	44.12
Total	34	100.0

Among the open source software used for automation of library activities, out of 35 responses, Koha takes the first with 19 (55.88) and New GenLib stands second with 15 (44.12) respondents have used to automate their library activities respectively. The main objective of the study is to identify the awareness and subsequent use of the OSS, the data in the above table doesn't reflect the awareness levels in comparison to the use levels. This table directly complies to the objective.

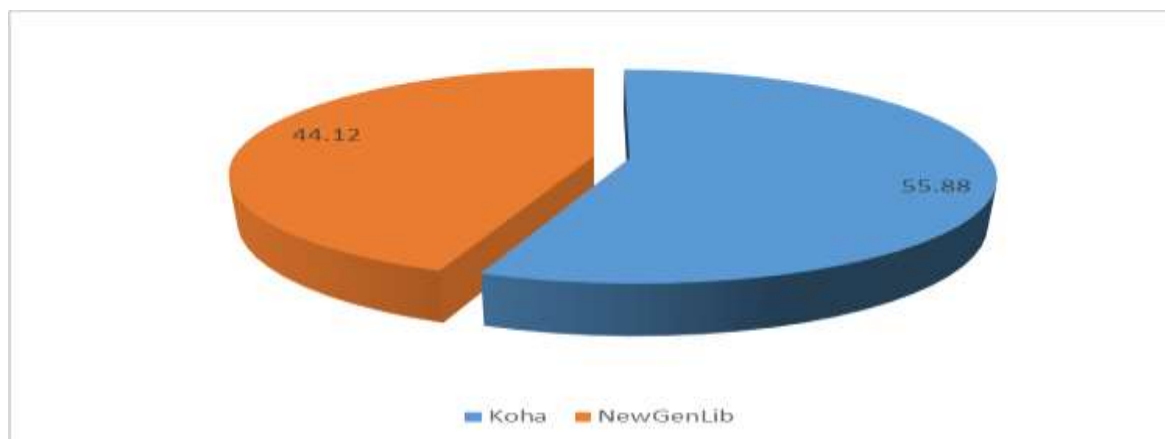


Figure-8: Use of Open Source Library Automation Software

Table-9: Areas of Library Automation

Area	Fully Automated (%)	Partially Automated (%)	Not Automated (%)	Mean	Std. Deviation
Circulation Control	124 (84.4)	8 (5.4)	15 (10.7)	1.12	.405
Serial Management	91 (61.9)	23 (15.6)	33 (22.4)	1.40	.680
Acquisition Control	107 (72.8)	22 (15)	18 (11.2)	1.30	.974
OPAC	125 (85)	5 (3.4)	17 (11.5)	1.08	.349
Administration	94 (63.9)	21 (14.3)	32 (21.8)	1.27	.548

Data from the above table shows that when asked about the areas of library automation, majority of responses have been obtained for ‘OPAC’ as part of library automation with 125 (85.00) opined for makes it first and 124 (84.40) respondents have opined that they have done the library automation for ‘Circulation Control’ as this is the most used and ‘front-end’ function of any library and Information Centre. ‘Acquisition Control’ has been rated as third best function considered for automation with 107 (72.80) respondents voting for. There are 94 (63.90) and 91 (61.90) respondents said that they have automated ‘Administration’ and ‘Serial Management’ respectively.

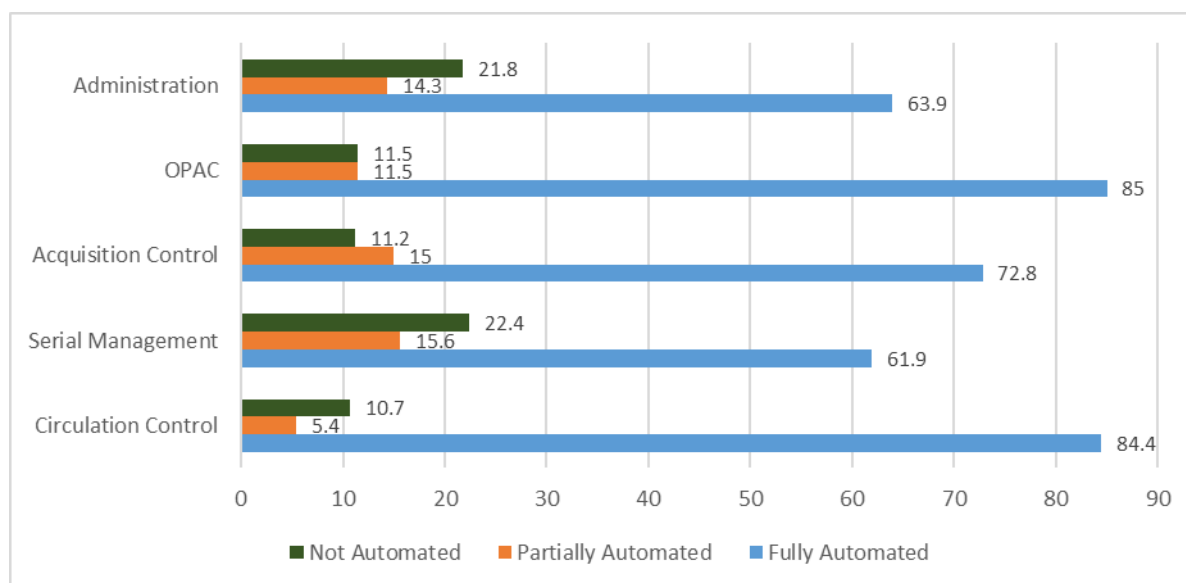


Figure-9: Areas of Library Automation

Table-10: Reasons For the Use of Open Source Software

Reasons	Responses (multiple choice)	
	Number	Percent
No charge for software license	45	24.3%
Customizable to the institution’s needs	39	21.1%
No maintenance cost, can be maintained by the organization’s IT staff	38	20.5%
Source code is available	36	19.5%
Ability to redistribute	27	14.6%
Total	185	100.0%

The data in the above table shows the use of OSS, here in the table, data depicts the reasons behind the use of OSS in the engineering college libraries. There were 45 (24.3) respondents said that they use the OSS for the reason that there is absolutely “No charge for software license”; 39 (21.1) respondents have expressed their opinion that the OSS is “Customizable to the institution’s needs”; 38 (20.5) respondents have felt that “No maintenance cost, can be maintained by the organization’s IT staff” is the reason for them to use OSS; 36 (19.5) and 27 (14.6) respondents have felt that the reason for the use of OSS is “Source code is available” and “Ability to redistribute” respectively. Over all the majority of the respondents have felt that the major reason for them to adopt OSS are ‘cost, customization and no maintenance’ respectively.

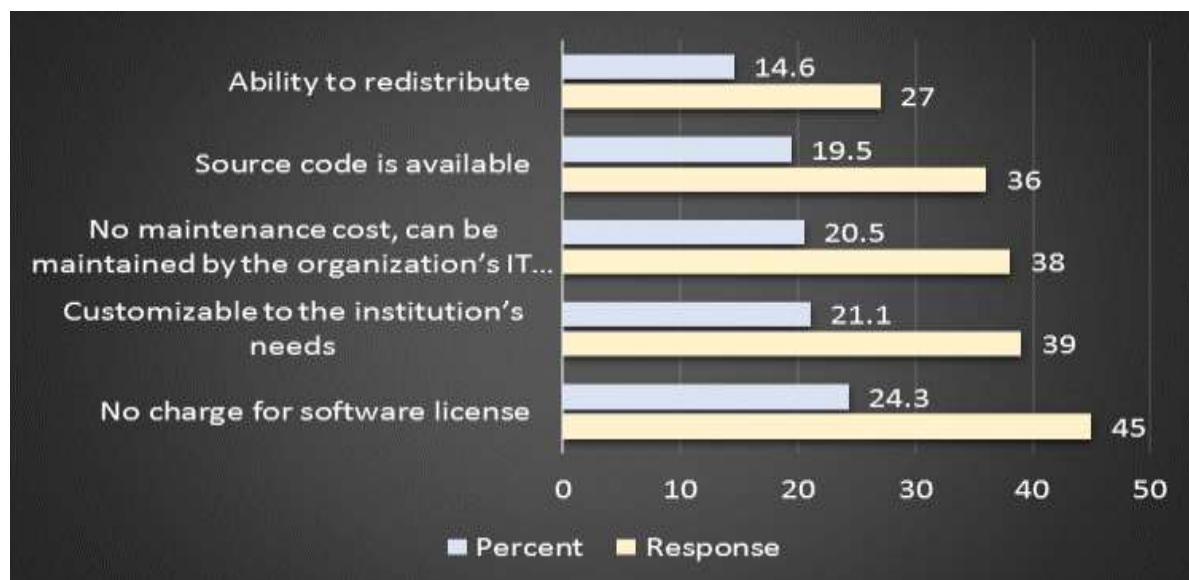


Figure-10: Reasons for the Use of Open Source Software

Table-11: Application of Open Source Software for library services

Library Service area	OSS Application (Multiple Choice)	Percentage
Information Search Service	24	15.58
Current Awareness Service (CAS)	21	13.64
Selective Dissemination Service (SDI)	21	13.64
Stock Verification	24	15.58
Reference Service	23	14.94
Inter Library Loan	21	13.64
Indexes/ indexing	20	12.99
Total	154	100

The data from the above table shows that, how the OSS has been used or applied to provide the library services such as Information Search Service, Current Awareness Service (CAS), Selective Dissemination Service (SDI), Stock Verification, Reference Service, Inter Library Loan and Indexes/ Indexing. There were identical responses of 24 (15.58) for both ‘Information Search Service’ and ‘Stock Verification’. ‘Reference Service’ secured with 23 (14.94) responses. ‘Current Awareness Service (CAS)’, ‘Selective Dissemination Service (SDI)’, and ‘Inter Library Loan’ have all got the 21 (13.64) respondents voting for them respectively. Finally, ‘Indexes/ Indexing’ got 20 (12.99) respondents voting that they have applied OSS for rendering the above said library services in the libraries of the engineering colleges.

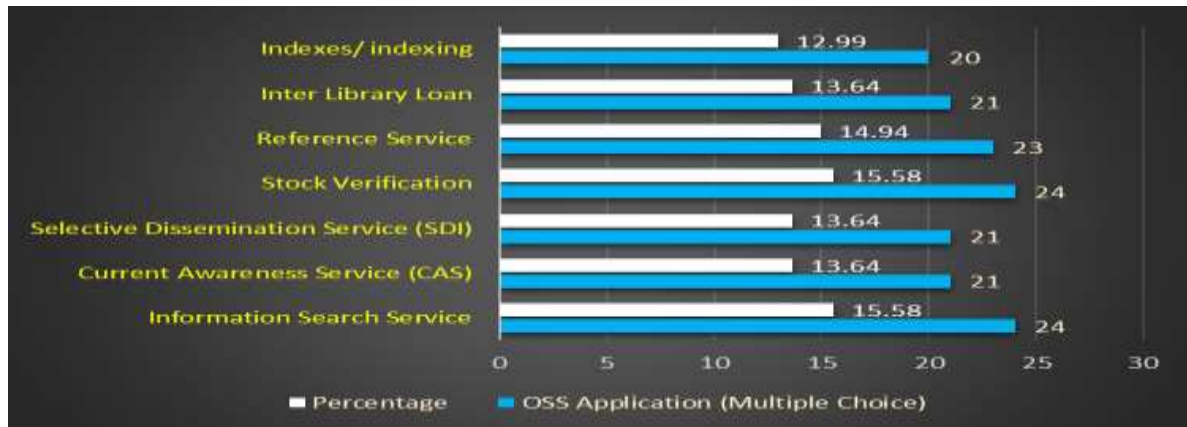


Figure-11: Application of Open Source Software for library services

Table-12: Advantages of Open Source Library Automation Software

Advantages (N=57)	Yes	No	Mean	Std. Deviation
Collaborative and sharing developments in future	30 (52.6)	27 (47.6)	1.47	.504
Avoid vendor lock in	26 (45.6)	31 (54.4)	1.54	.503
Enhanced security	21 (36.8)	36 (63.2)	1.63	.487
Cost advantage	41 (71.9)	16 (28.1)	1.28	.453
To ensure uniformity in use of open source software	25 (43.9)	32 (56.1)	1.56	.501

When asked for providing the responses as stated in the table above, out of 57 respondents, 41 (71.9) opined that ‘Cost advantage’ is being the major advantage, 30 (52.6) felt that ‘Collaborative and sharing developments in future’ is the advantage of OSS -Library Automation Software, 26 (45.6) opined that ‘Avoid vendor lock in’ is the advantage for hassle free access, 25 (43.9) said that ‘To ensure uniformity in use of open source software’ is the advantage and 21 (36.8) felt that ‘Enhanced security’ is advantageous in the use of Open Source Library Automation Software respectively. Overall it has been observed that use of Open Source Library Automation Software is advantageous to the engineering colleges as well as its libraries and librarians.

Table-13: Satisfaction by using Open Source Library Software

Levels of Satisfaction (N=58)	Response	Percentage
Fully satisfied	35	60.3
Just satisfied	6	10.3
Not satisfied	2	3.4
Partially satisfied	11	19.0
Don't Know	4	6.9
Total	58	100.0

When posed with the satisfaction levels by the use of Open Source Library Software, only 58 responses were obtained, out of which majority of 35 (60.3) respondents opined that they are ‘Fully satisfied’ by the use of Open Source Library Software. There were 11 (19.0) said that they are ‘partially satisfied’ by the use of Open Source Library Software. There were 6 (10.3) and 2 (3.4) opined that they are ‘Just satisfied’ and ‘Not satisfied’ by the sue of Open Source Library Software respectively. There was a strange response from 4 (6.9)

respondents have opined that they 'Don't know', which is confusing on part of the respondents that even after the use of Open Source Library Software, they are still uncertain about the use of Open Source Library Software.

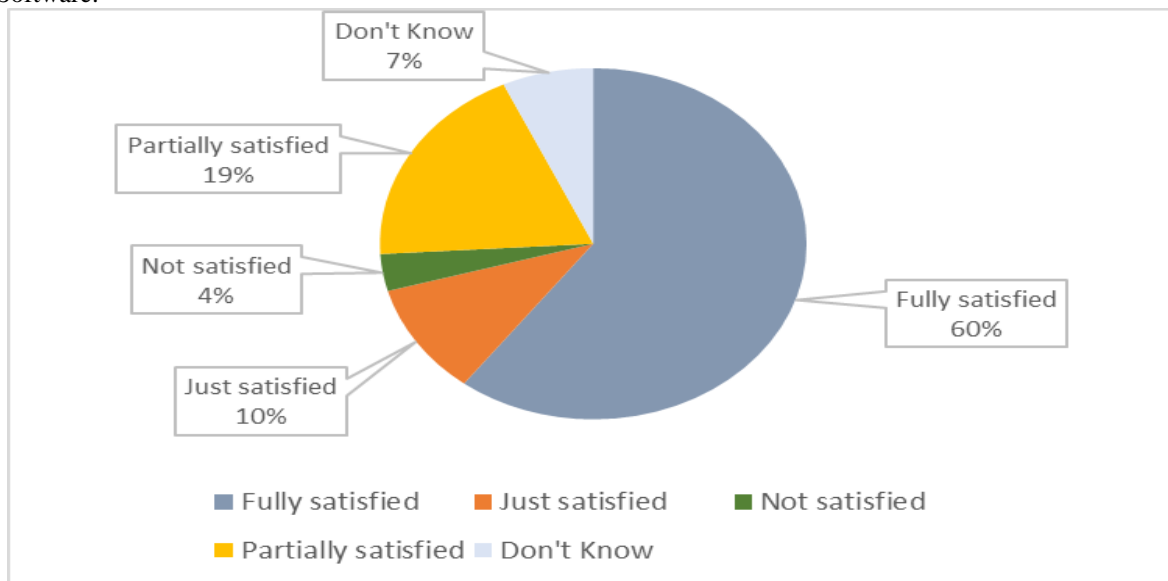


Figure-12: Satisfaction by Using Open Source Library Software

8.0 Recommendations

1. The study aimed at assessing the awareness and use of OSS library automation software used for automating the engineering library activities, there is a further detailed study is needed to find out the other features available for content management and website creation using these OSS tools
2. There is a need for LIS professionals of the engineering colleges to adopt more aggressive collection development policy for their collection building by the effective use of the acquisition module available in the library automation software (both premium as well as open source)

9.0 Conclusion

Open source software as well as open source movement has come a long way and still has a lot to cover in making the modern day libraries as well as librarians adopting the OSS tools in making their job easier and faster in service delivery. OSS tools enable the LIS professional to provide right information to the right user at a right time in right format as enunciated by Dr. S R Ranganathan. Documentation services, as propagated by Dr. S R Ranganathan, OSS can enable to reduce the divide between ever changing and dynamic user needs with the supply of services by the LIS professionals. Today, almost all library activities can be automated or mechanised, in this direction one can find absolute support from the OSS initiatives across the globe for plugging the needs of the libraries and information centres.

10.0 References

1. Rajesh Kr. Bhardwaj, and R.K. Shukla. (2000). A practical approach to library automation. *Library Progress (International)*, vol.20 (No.1): 2000: p.1-9.
2. Sanjo Jose, (2007), Adoption of open source Digital Library Software Packages: A Survey, *Convention on Automation of libraries in Education and Research Institutions (CALIBER) 2007*.
3. Uddhav, R. (2012). Criteria for selecting automation software for a small and medium library. *Golden Research Thoughts*. Vol-I, Issue-XI.