Chapter-VIII
Findings, Suggestions and Conclusion

8.1 Introduction:
This chapter gives an idea about the complete research work carried out on the basis of analysis and interpretation of the data. In this chapter, the researcher has drawn specific findings on the basis of data collected from the respondents, tested of hypothesis and then drawn the suggestions and conclusion. It also gives the direction for further research and future trends in library automation.

8.2 Findings:

8.2.1 Information about Sinhgad Institutes:
1. Sinhgad Group of Institutes located at different places in Maharashtra and there are 48 higher education libraries.
2. These libraries are providing services to 109 academic programmes, which are divided into 9 types of disciplines and 33 types of courses. (Ref. Table No. 5.1, 5.2 and 5.3)
3. The libraries under Management, Engineering, Pharmaceutical and Arts Commerce, Science discipline contain a number of courses, hence the collection, circulation and addition of literature is more in these libraries compared to other libraries. (Ref. Table No. 5.5, 5.6, 5.7)

8.2.2 Information about libraries & IT infrastructure:
1. These 48 libraries of Sinhgad Group of Institutes appointed around 182 professional and non-professional library staff for various library operations. Entire (100%) library staff is computer literate excluding library peons. (Ref. Table No. 5.4)
2. From the observation and primary data it is found that, all the institute libraries are using central UPS connection for continuous power supply. In every campus, Sinhgad Institute has power Generator facility as well as a very large capacity of UPS which can be sufficient for the whole institute including computer laboratory, administration office and the library. (Ref. Table No.5.48)
3. It is observed that 81.4% (35) libraries are not maintaining separate server for library, only 18.6% (8) libraries have separate server / computer for their LMS. (Ref. Table No.5.48)

4. Around 4.65% (2) software is web based whereas 95.35% (41) libraries are having softwares which are compatible only to LAN (Local Area Network) (Ref. Table No. 5.19)

5. All the libraries having sufficient hardware and software configuration required to install either commercial library management software or open source software. (Ref. Table No. 5.17)

6. There is no separate system administrator in any library to attend to the complaints and for troubleshooting; Computer lab in-charge who is an expert in computer hardware maintenance can handle all these troubleshooting issues. (Ref. Table No. 5.48)

7. As much as 23% (11) libraries and 38% (18) reading rooms are open for 24 hours whereas other libraries and reading rooms are open for 10 to 15 hrs. only (Ref. Table No. 5.8)

8.2.3 Services offered presently:

1. All the 43 (100%) automated libraries are providing basic services like provision of general and specific information, assistance in searching and locating documents, assistance in the use of reference books and helping in the use of OPAC. (Ref. Table No. 5.11)

2. Most of the libraries are providing informational services along with routine work. Library orientation or library tour is not offered in most of the libraries. (Ref. Table No. 5.12, 5.13)

3. Most of the libraries are providing advanced services and traditional service like information about check-out details. Almost 4.65% (2) libraries are performing services like claim activation, online/ self-renewing, browsing of individuals details by ID and access to bibliographical database, etc. (Ref. Table No. 5.14)

4. The interest towards providing web based services is very less, i.e. around 4.65% (2) libraries are using web based technology for service providing. (Ref. Table. No.5.15)
8.2.4 Library automation:
1. There are 89.58% (43) libraries automated while 10.42% (5) libraries are yet to be automated. From the automated, 97.67% (42) libraries are using commercial library management software like, AutoLib, EasyLib, LibSuite, Libex.Net and SLIM21 whereas 2.33% (1) library is using in-house (Gems) LMS, which is developed by Sinhgad Institutes. (Ref. Table No. 5.22, 5.25)
2. All the respondents have expressed that, the library management software are updated only after the AMC paid to the vendor. (Ref. Table No. 5.32)
3. Regarding the online manual, it is observed that only 60.47% (26) LMS software has got user manual from software vendors (Ref. Table No. 5.35)
4. All the existing library management softwares have a backup facility. (Ref. Table. No. 5.44)
5. All the librarians required training for operating any library management software at first time installation. (Ref. Table. No. 5.31)

8.2.5 Cost involvements for library automation:
1. All the libraries are having internet connection in their libraries. All the libraries are automated during 2004 – 2012 by spending almost Rs. 25,36,000/- as a capital cost for LMS. Only 10.42% (5) libraries are not automated due to high capital cost of LMS at initial stage. (Ref. Table No. 5.20, 5.2, 5.25, 5.23)
2. There is no uniform criterion followed by software vendors at the time of selling the license copy of software and AMC to the institute libraries. (Ref. Table No. 5.26)
3. From 2010 to 2013 almost Rs. 4,01,633/- spent towards AMC. Maximum AMC amount is spending during 2011. (Ref. Table No. 5.27)
4. All the libraries are using commercial operating system (Windows) on their computer terminals (127 numbers) and approx. Rs. 10,23,874/- was spend for Microsoft license agreement between the 2010 to 2013. (Ref. Table No.5.18, 5.28)
5. All the libraries are using antivirus as a data security measure. Quick Heal antivirus software brand is used on their computer terminals and almost Rs.
1,03,293/- spent between the 2010-2013 for (renewal/purchase) license agreement. (Ref. Table No. 5.29)

6. There are 11 barcode printers available in Sinhgad group of Institute libraries and approx. Rs. 2,13,350/- spent on barcode printers. (Ref. Table No. 5.30)

8.2.6 Data Structures / Data Formats:
1. It is observed that none of the library has to pay for the maintenance of the backend database software as it is an inbuilt part of the whole LMS. Any issues regarding DBMS are attended by commercial LMS vendor. (Ref. Table No. 5.30)
2. It is observed that the library management software use MS Access and MySQL as a backend database for storing the data. (Ref. Table No. 5.21)

8.2.7 LMS features, facilities:
1. SLIM21 and Libex.Net LMS are compatible for multilingual support.
2. Many of the LMS are not able to provide online CAS and SDI service. (Ref. Table No. 5.13)
3. None of the commercial library software, which is used in Sinhgad Institute libraries, is adhered to cataloguing and communication standard. (Ref. Table No. 5.33)
4. None of the LMS is able to guide virtual sequence of books, computable for RFID, not able to show cover image of the books and the user is not able to define keywords for the book. (Ref. Table No. 5.45)
5. None of the LMS has email discussion group of their software user. (Ref. Table No. 44)
6. None of the LMS is customizable to display of the software or screen menus and reports. (Ref. Table No. 5.45)

8.2.8 Other features of Autolib, EasyLib, LibSuite, Libex.net and SLIM21:
1. These software have other sub-modules like, facilities of budgetary control, branch management, and user management in their existing LMS. AutoLib LMS have additional facility of newspaper management and project report management. (Ref. Table No. 5.36)
2. These software have acquisition module that includes facilities like, allocating the budget for various departments, it includes subject-wise and year-wise budget management. It also includes a facility of duplicate checking, selection of the books from suggestions, stage file and book approvals. (Ref. Table No. 5.37)

3. Few library LMS have a facility of cataloguing of different items, authority control, copy catalogue, etc. (Ref. Table No. 5.38)

4. These software are having a serial control module that includes facilities like, placing the order to the vendor, to receipt the goods, to process the payment, to remind for non-receiving titles through email. (Ref. Table No. 5.39)

5. All the existing LMS have administration module that facilitates allocating the user rights, update the system database, stock verification, and backup of the data. (Ref. Table No. 5.41)

6. All the existing LMS having OPAC Module which facilitates easy or simple and Boolean search on title, author, publisher, subject name, abstract and key word. In advance search one can search by accession number, ISBN/ISSN number, class number, etc. Also there is a facility getting suggestions from the end user. Except (EasyLib and LibSuite) LMS having the facility to reserve the books through OPAC. (Ref. Table No. 5.42)

7. None of the LMS are having mobile compatible OPAC, able to provide access to multimedia material or ask a librarian facility. None of the LMS has a facility to customize the OPAC by end-user and facility to create a virtual shelf of the books. (Ref. Table No. 5.15, 5.42)

8.2.9 Data Migration:

1. None of the library has made any agreement before LMS installation regarding vendor lock and data migration. According to 69.77% (30) respondent’s opinion, software vendor is the proprietor of database backup file generated by software. (Ref. Table No. 5.46, 5.47)

2. All the librarians have opined that, data export facility is available in their LMS but due to lack of proper training, librarians are not able to export or modify the data as per their need. (Ref. Table No. 5.47)
8.2.10 Resource sharing practices:
1. None of the libraries are practicing any resource sharing like, centralized budgeting, centralized purchasing, centralized acquisition, cooperative cataloging and classification, using web catalogue and OPAC of other campus libraries. (Ref. Table No. 5.49)

8.2.11 Software expectations:
1. All the respondents want to bring their OPAC on Mobile / Tablet, SMS alert in circulation and also add the absent features in new software. (Ref. Table No. 5.52)
2. All the respondents want to provide a link of accompanying material like CD’s through LMS. These respondents expect ILMS (Integrated Library Management System) and DLM (Digital library Management software) may be introduced on single installation. (Ref. Table No. 5.52)

8.2.12 Knowledge and IT literacy about OSS:
1. All the librarians are aware about Open source software like, Koha, NewGenLib and e-Granthalaya LMS. In the past, Koha LMS has been used by 4.17% (2) respondents and e-Granthalaya is used by only 2.08% (1) respondents. Around 45.83% (22) respondents have attended seminar, conference and workshops regarding OSS. (Ref. Table No. 5.50, 5.51)
2. Total 52.08% (25) respondents would like to switch or newly install OSS on their computers. Out of these 25 respondents, 5 are non-automated libraries. Whereas 22.92% (11) respondents do not want to switch over OSS and 25% (12) respondents are not sure to make decision about switch over from existing LMS to OSS. (Ref. Table No. 5.50)

8.3 Post feasibility study findings:
It is observed that the prototype model using OSS, being considered is feasible operationally, technically and economically as well as legally in the Sinhgad Institute libraries. All the required facilities, IT infrastructure, human resources are available with Sinhgad Institute libraries to implement OSS. Little training to the library staff to handle the new phenomenon like the open source software for
the Operating System and the LMS Koha can help to start the implementation of
the centralized system as proposed in the study.

8.3.1 Expected features, facilities and services from the LMS system:
From literature review and feasibility study of the centralized library management
system using “Koha”, the researcher could come to an understanding that one can
expect the following enhanced features, facilities and services by implementing
Koha in Sinhgad Institute libraries.

a. Organizations point of view:
   1. Reduces cost of library automation
   2. Reduces yearly maintenance cost of automation
   3. Centralized allocation of budget
   4. Centralized control on purchase
   5. Improved way of resource sharing
   6. Transparency in purchase

b. Librarians point of view:
   1. Collaborative intelligence software
   2. LMS customized as per our need
   3. Interlinking of all the libraries
   4. RFID compatible
   5. E-Mail discussion group of software users
   6. Updates are available frequently
   7. Redundancy of work
   8. Cooperative acquisitions / classification / cataloguing
   9. Importing of cataloguing data from branch / other libraries
  10. Resource sharing
  11. Interlibrary loan
  12. Able to provide batch wise no dues certificate
  13. Customization of reports
  14. Transparency in administration work
  15. Library / Organization is data proprietor
16. Data migration will be easy
17. Local troubleshooting of LMS is possible
18. More security with Linux

c. **Users point of view:**
   1. Integrated web OPAC of all the campus libraries
   2. Reservation / Holdings through OPAC
   3. Renewal through OPAC
   4. Mobile compatible OPAC
   5. OPAC customization
   6. User can define keywords to book
   7. Display search history
   8. Web 2.0 based services like, RSS, Tagging and Instant Messaging, etc.
   9. Web based CAS, SDI
   10. Ask a librarian or help
   11. Self Check-ins
   12. Able to provide book image of cover page under enhanced contents
   13. Creation of virtual shelves
   14. SMS alert
   15. Transparency in circulation
   16. End user suggestions

**8.3.2 Analysis of Feedback and Opinions: Prototype model using Koha**

After the development of the prototype model, one more survey was conducted among the Librarians of the participating Libraries to know their views about the prototype model. The detailed analysis of the same is presented as follows.

The developed prototype model using Koha is 1) excellent framework for two respondents, 2) good for 33 respondents and 3) average for only 8 respondents. The features and the facilities of the proposed prototype model were also discussed with the participating librarians and we found that the two respondents gave their opinion as excellent and for the rest forty two respondents its good. (Ref. Table No. 7.1, 7.2)
Similarly, a question about the resources utilization was asked. Surprisingly, it was found that 33 respondents were of the opinion that the centralized library management system (CLMS) can enhance the utilization of resources. Somehow, 4 respondents did not feel that the CLMS can enhance the utilization of resources. As usual, 8 respondents gave a neutral feedback. (Ref. Table No. 7.3)

Lastly, one more question was asked, whether the proposed model would enhance the quality of services offered by the libraries? Almost all the librarians (except two) said that there will be an enhancement in the quality of the services that will be offered in the centralized LMS system. (Ref. Table No. 7.4)

8.4 Fulfillments of Objectives:

1. To study the services presently offered by automated libraries of Sinhgad Institutes:
   While studying this objective, the researcher collected the data of all the 43 automated libraries. It is observed that, presently all the libraries in this network provide all the basic services like, library membership, circulation, all kinds of reference/referral service, assistance in searching and locating documents, assistance in the use of reference books and helping in the use of OPAC, etc. Few of the libraries also offer following services like, library orientation/library tour, reservation, inter-library loan, reprography, self-renewing, electronic document Delivery (EDD), etc. The same is reflected in Tables 5.11 – 5.15 in Chapter – 5. This detailed analysis indicates that the above objective is fulfilled.

2. To study concepts, tools and techniques related to OSS:
   In the chapter 3, the researcher has studied in depth the concepts of the open source software, its philosophy, genesis and the developments till date. Also it discusses the advantages and limitations of using the open source software. The researcher also in depth studied the various tools that accompany the open source software phenomenon. Researcher has also pulled out the detailed account of it international and national scenario as on today. This indicates the fulfillment of this objective.

3. To evaluate the library management softwares adopted by Sinhgad Institute higher education libraries:
During the study, the researcher found that 43 out of the 48 libraries are already automated. Unfortunately, it is observed that five commercial and one in-house software is being used in various libraries. Even though the individual libraries are running the show using either commercial or open source software, the researcher found that none of the software was suitable to use for the centralized system. Main hurdles behind this problem were the inconsistency of using non-standard practices. Apart from these there were some other hurdles like non-export of the data features and interlinking between the databases. Lastly, the biggest hurdle was the cost, as one has to pay for each and every license for every library. All the features and pit-falls of commercial software used in the Sinhgad Institutes libraries are discussed in details in chapter -5 and chapter-6. Thus this indicates the fulfillment of this objective.

4. To compare commercial and open source software in terms of features and services:
During the study, the researcher has studied the pros and cons of various commercial softwares. As compared to the cost and the kind of services provided by the commercial LMS software, none of the software was found worth implementing for the centralized system. The researcher has also studied a number of open source software like Koha, NewGenLib, e-Granthalaya, etc. After applying various parameters, the researcher could take a call on Koha as one of the open source software that best suits for implementation of the centralized LMS for Sinhgad Group of Institutes and with this the objective to compare the commercial and open source software is fulfilled.

5. To study the feasibility and implementation of centralized library system using OSS in Sinhgad Group of Institutions:
While studying this objective researcher has worked out a feasibility study of the software in chapter number six. After analyzing all the relevant data from feasibility study of the proposed model, it is understood that the model using OSS using Koha is operationally, technically and economically as well as legally feasible in the Sinhgad Institute libraries. All the required facilities, IT infrastructure, human resources are available with Sinhgad Institute libraries to implement centralized system with OSS LMS like Koha. It is also observed that
the new system can be implemented with a minimal training to the existing library staff of the Sinhgad Institute libraries. This fulfills the current objective.

6. To build a prototype model of the centralized library system of Sinhgad institutes higher education libraries using OSS for enhancing library services:

During the study, the researcher has developed a prototype model of centralized library management system using Koha OSS. In this study, all the forty eight libraries are connected through internet that can work either on the local single server or the cloud server. The model also evaluates the system from the point of views of the organization, librarians and the user’s perspectives. After the successful study of the model, a feedback of the librarians was sought. Analysis of the feedback indicates that the libraries are ready to welcome and implement the topic at the earliest for the benefit of all the three communities, i.e. the organization as a whole, the librarians and the users of the libraries. This indicates that the researcher has achieved the goal of this objective. The same has been discussed elaborately in chapter – 07.

8.5 Testing of Hypothesis:

**Hypothesis Number 1:** Individual libraries falling under one parent organization or institute use different library management systems for library automation and thereby create a hurdle for centralized library system.

**Table No. 8.1:** Number of various software installations in Sinhgad Institute higher education libraries.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Software Name</th>
<th>Developed by</th>
<th>Number of installations</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AutoLib</td>
<td>Aakash InfoTech: Pune</td>
<td>16</td>
<td>37.21</td>
</tr>
<tr>
<td>2</td>
<td>EasyLib</td>
<td>Fidelity Coding: Pune</td>
<td>13</td>
<td>30.23</td>
</tr>
<tr>
<td>3</td>
<td>Gems</td>
<td>STES: Pune</td>
<td>01</td>
<td>02.33</td>
</tr>
<tr>
<td>4</td>
<td>LibSuite</td>
<td>Soft-Aid : Pune</td>
<td>04</td>
<td>09.30</td>
</tr>
<tr>
<td>5</td>
<td>Libex.Net</td>
<td>Scrum System: Pune</td>
<td>02</td>
<td>04.65</td>
</tr>
<tr>
<td>6</td>
<td>SLIM21</td>
<td>Algorithms : Pune</td>
<td>07</td>
<td>16.28</td>
</tr>
<tr>
<td><strong>Total Respondents</strong></td>
<td></td>
<td></td>
<td><strong>43</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

240
Graph No. 8.1:-Distribution of libraries according to software used

The above table and graph shows distribution of the libraries according to software used in various institutes. ‘AutoLib’ is used by 37% (16) libraries, ‘EasyLib’ is used by 30% (13) libraries, ‘LibSuite’ is used by 9% (4) libraries, ‘Libex.Net’ is used by (5%) 2 libraries, ‘Gems’ is used by 2% (1) library and ‘SLIM21’ is used by 16% (7) libraries.

**Conclusion:** It is clear that the libraries under “Sinhgad Institute” are not using centralized (single) LMS and there are six different library management softwares in use, thus, creating a hurdle for centralized library management system.

**Hypothesis Number 2:** Implementation of centralized system can enhance the utilization of resources in terms of technical process like cooperative acquisition, cataloging, union catalogue and also in terms of manpower, IT infrastructure etc.

**Table No. 8.2:** Librarians view: Implementation of centralized LMS can enhance the utilization of various resources.

<table>
<thead>
<tr>
<th>Reply</th>
<th>Librarians view</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Number of libraries</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>Percentage</td>
<td>76.74%</td>
<td>4.65%</td>
</tr>
</tbody>
</table>

*Source: Primary data and Feasibility study*
Graph No. 8.2:- Librarians view: enhances utilization of resources by centralized library system

![Graph showing librarian's view on CLS (Central Library System)](image)

The above table and graph shows; the opinion of librarians about implementation of centralized library system can enhance the utilization of various resources of the institute. As per the statistics 76% (33) librarians replied that, implementation of centralized system can enhance the utilization of resources in terms of processes mentioned above, 5% (2) reported disagreement and 19% (8) were not sure about the efficiency of centralized library system.

**Explanation:**

Let, \( p = \) Proportion of librarian who are in favor of CLS.

- \( H_0: p = 0.5 \) i.e. there are equal number of librarians who believe or don’t believe (or unsure of) the efficiency of CLS.

- Vs.

- \( H_1: p > 0.5 \) i.e. number of librarians believing in enhancement due to centralized library system (CLS) is significantly higher than those who don’t believe.

**Table No. 8.3:** Statistical proven data table for hypothesis number two:

<table>
<thead>
<tr>
<th>Chi –Square Corrected</th>
<th>Degree of freedom (d.f.)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.26</td>
<td>1</td>
<td>0.0004</td>
</tr>
</tbody>
</table>
Using one sample test of proportion, it can be seen the proportion of librarians favoring centralized library system (CLS) is significantly higher than 0.5 (P-value = 0.0004) (P-value= table value).

**Conclusion:** According to librarians opinion and feasibility study we can say that, implementation of centralized system can enhance the utilization of resources in terms of technical process like cooperative acquisition, cataloging, union catalogue and also in terms of manpower, IT infrastructure etc.

**Hypothesis No. 3:** Using a single library management system irrespective of commercial or open source can enhance the quality of services provided by individual libraries.

**Table No. 8.4:** Librarians opinion: Single library management system (LMS) can enhance the quality of services.

<table>
<thead>
<tr>
<th>Reply</th>
<th>Librarians Opinion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Number of libraries</td>
<td>41</td>
<td>2</td>
</tr>
<tr>
<td>Percentage</td>
<td>95.35%</td>
<td>4.65%</td>
</tr>
</tbody>
</table>

*Source:* Primary data and Feasibility Study

**Graph No. 8.3:** Librarians Opinion: Centralized Library System (CLS) is effective irrespective with OSS
The above table and graph shows opinion of librarians regarding centralized library system (CLS) is effective irrespective of OSS or commercial system. 95% (41) librarians replied that implementation of centralized system can enhance the utilization of resources irrespective of the technology used is open source or commercial, while only 5% (2) doubted the efficiency of OSS as compared to commercial software.

**Explanation:**
Let, \( p \) = Proportion of librarian who believe OSS and commercial software are equally efficient as centralized library system (CLS).

\( H_0: p = 0.5 \)

Vs.

\( H_1: p > 0.5 \)

**Table No. 8.5:** Statistical proven data table for hypothesis number three

<table>
<thead>
<tr>
<th>Chi –Square ( Corrected)</th>
<th>Degree of freedom (d.f.)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>33.58</td>
<td>1</td>
<td>&lt; 0.01</td>
</tr>
</tbody>
</table>

Using one sample test of proportion, it can be seen the proportion of librarians who believe OSS and commercial system (CS) are equally efficient as centralized library system (CLS) is significantly higher than 0.5 (P-value < 0.01) (P-value= table value).

**Conclusion:** According to librarian’s opinion and with the help of feasibility study, we can say that, using a single library management system irrespective of commercial or open source can enhance the quality of services provided by individual libraries.

**Hypothesis Number 4:** Use of open source software can be an economical solution for library automation in terms of the consistency and the cost involved.
Table No. 8.6: Integrated financial estimation of hardware & softwares for all forty-eight libraries

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Particulars</th>
<th>Commercial LMS</th>
<th>OSS LMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hardware cost</td>
<td>78,36,000</td>
<td>55,04,000</td>
</tr>
<tr>
<td>2</td>
<td>Software cost</td>
<td>61,96,272</td>
<td>30,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>1,40,32,272</td>
<td>55,34,000</td>
</tr>
</tbody>
</table>

The above table shows, the financial estimation of hardware & softwares for all forty-eight libraries using commercial library management system and open source library management system. The details of the table are described in chapter number VI titled “Feasibility Study of Proposed Model”.

**Conclusion:** *From the above table it is clear that open source software is a very cost effective solution instead of commercial library management system.*

**8.6 Suggestions:**

After an in depth study, the researcher has come out with a lot of valuable suggestions which are worth mentioning here.

1. To reduce the cost of operating system, librarians should think of using an operating system that is based on open source technology.
2. Similarly, the librarians also can think of reducing the cost of antivirus software by using the open source software for the client as well. According to experts the virus affection for this operating system is low as compared to other operating systems.
3. It is recommended that the Librarians should use all the advance technologies which can reduce the gap between users and library resources for enhancement of the library services.
4. It is observed that the in-house software are not sustainable for a long term due to various reasons, hence the librarians should always avoid use of such software even though it comes free of cost.
5. Even if the Librarian wishes to use the commercial software for some reasons, one must ensure the terms and conditions regarding data export, data transfer or data migration, etc.

6. Irrespective of any make of the software, whether commercial, open source or in-house, one must ensure the provision for the web based services. These will ease a lot to the librarians and the users.

7. Some of the open source LMS software do have their discussion forums but apart from this, the librarians also should have their local discussion forums so that they can discuss and resolve the local issues.

8. Librarians are advised to actively attend or participate in seminars, workshops and conferences held on open source software so that they are updated about the recent developments in the open source software.

9. It may not be feasible for all LIS professionals, but wherever possible, LIS professionals should get involved in the free/open source softwares development projects by contributing their ideas for the library profession.

8.7 Scope for future research:
There are hundreds of library management software packages which are running successfully in libraries. There are a lot of directions and tools available to help librarians for selecting suitable software for the library. The selection of software is critical because day by day technology is changing rapidly. Therefore library professionals are suggested that, they should give more attention towards the study of library softwares, which can enhance the library professional’s confidence towards various technologies. Here, the researcher has suggested a few subjects for the purpose of further research.

1. Study of cost-benefit analysis of different commercial and open source softwares.
2. Technology driven: comparative study of various open source software and commercial library management software packages.
3. Implementation of open source library management software.
4. Use of IT applications in library automation
5. Role of OSS in changing environment.
8.8 Benefit of this research to society:

There are so many big educational organizations in the society like Sinhgad Institutes, distributed geographically at various places. These organizations may be spending huge amount on library automation. These organizations may be wanted to reduce the cost of automation along with improved library services. These organizations can able to save their money and time of library administrator and staff by implementing suitable open source software.

8.9 Conclusion:

The capital investment of the commercial software, it’s upgradations charges, service packs and Annual Maintenances Changes (AMC) are affecting the library budget. The taxing AMC amount is increasing on regular basis and creating hurdles in the development of the organizations. Most of the commercial library software developers ignored cataloging standards such as MARC21, AACR2, etc. Open source library management systems like Koha could be installed and maintained and maintained by librarians themselves. Alternatively, even it can be outsourced to the IT organizations satisfying library standards. The OSS like ‘Koha’ is of the best possible solutions for the Sinhgad Group of Institute libraries because all the functional requirements of a central library management system are covered in Koha as OSS reduces the automation cost of libraries significantly and enhances services of library automation system. Now it is essential to provide training to library professionals working in Sinhgad Institute libraries to implement OSS (Koha). From above discussion, lastly researcher concludes that, commercial and paid solutions can only survive when they work for the welfare of society along with their business.