Chapter-7: Summary, Findings and Conclusion

7.1 Summary

Presently, there are a number both indigenous and international library software packages available in India. However, the selection of appropriate software package for implementing a successful integrated library system that will cater to the needs of academic libraries in India has been a challenging task for librarians. Although, a number of library softwares packages were developed in this direction by research and development libraries in India. But, only few of those softwares survived, while the rest did not last long due to their shortcomings to fulfill the international standards.

Against this backdrop, many Indian libraries switched over to international software packages to overcome these drawbacks. Notably, the libraries associated with research and development centers and large academic libraries in India are using standard library management softwares to enhance their operations and services. On the other hand, the condition of services and operations of most of the academic libraries is unsatisfactory. Remarkably, during the last two decades, the College and University libraries of India with the financial support of UGC along with the landmark development of INFLIBNET gained the momentum towards automating their operations and services. Significantly, these initiatives and the SOUL software developed by INFLIBNET played a key role to enhance the efficiency and effectiveness of Indian academic libraries. It may, however, be noted here that a lot of further development is required to improve the present state of automated library system of Indian libraries for the effective utilization of their valuable resources.

The present study was undertaken with the intent to examine the usage and effectiveness of different library software packages for assessing the current performance of operations and services in Central Library, IIT Delhi; P. K. Kelkar Library, IIT Kanpur and Allama Iqbal Library, Kashmir University. The purpose of the study was to determine the status of awareness of library softwares, OPACs and their proper usage among the users of select institutes.
Besides above, the aim was to critically analyze the overall satisfaction of users with the present state of automated retrieval system of select libraries. Furthermore, this research study investigated the knowledge and expertise of library staff in managing the automated library system effectively. Moreover, the study was undertaken with the purpose to investigate the effectiveness of softwares used by the select libraries on their services and operations.

Against this background, a sample of two libraries of leading IITs of national importance and one of the first ISO Certified University library in India with a good track record of automation were selected for the in-depth study of the status of their library softwares and library automation. After a thorough review of the related literature and evaluation of the select institute websites, a set of two well designed questionnaires were administered among the users of libraries under study. The survey resulted in 89.75%, 92.38% and 90.63% response respectively from IIT Delhi, IIT Kanpur and Kashmir University. However, due to the rejection of some incompletely filled-in questionnaires, the data analysis was carried out on 83.68% users in IIT Delhi, 89.20% in IIT Kanpur and 86.84% in Kashmir University.

In addition to collection of data, the investigator consulted various printed and electronic resources such as annual reports; pamphlets; brochures; newsletters; websites; etc. to cross-check the validity and authenticity of data provided by the respondents.

The collected data was analyzed and coded in MS-Excel package. Subsequently, the Chi-Square statistical test was used to prove the significant difference in the data. Besides above, graphs; charts; diagrams and Cross tabulation were used as per the need to measure the relationship between variables. Based on the data obtained from the users of libraries under study, following major findings were deduced.

7.2 Findings

The data is obtained through survey method by distributing a set of two well designed questionnaires among the library staff and users of the surveyed libraries. On the basis of analysis of collected data with respect to Usage and
Effectiveness of different Software Packages in the Libraries of Kashmir University, IIT Delhi and IIT Kanpur, some of the major findings to enhance the efficiency and effectiveness of their operations and services are summed up as follows.

1. A large number of respondents among the library staff in all the surveyed libraries have revealed that the manual routine work had become boring and monotonous while automated environment has enhanced job satisfaction level due to variety in work. Interestingly, the more number of staff in IIT libraries have opined the above statement in comparison to their counterparts in Kashmir University. This investigator has found that this view of IIT library staff owes to the fact that institution organizes periodical training programs on fundamentals of information technology. Significantly, a majority of the library staff also have attended these training programs. After receiving these training programs related to information technology, the staff of IIT libraries was keen to work in an automated environment. Procurement of library automation software and its installation in both the libraries have provided opportunity to work in an automated environment. On the other hand, Kashmir University library staff has got less exposure in the field of information technology. It is because of this reason the same amount of enthusiasm has not been found among the library staff of Kashmir University.

2. Acquisition is the core activity in any library which requires a good knowledge of librarianship. Notably, the library staff faces difficulties in monitoring growing collections, preparing and updating supplier list, sending reminders and management of budget in manual acquisition. Of all the surveyed libraries, staff has found a complete solution to these problems in automated acquisition system. The staff of these libraries have revealed that they have never imagined that their task would be so simple with the help of library automation software. The results of the
present work also substantiate the study conducted by (Rajgopalan, 1981).

3. Another wonderful findings of the present study suggest that there is an increased usage of library resources, due to automation process in all the surveyed libraries. This finding proves the investigation carried out by (Peake, 1981) in his study related to Australian University libraries.

4. Yet another findings of this study showed that IIT Delhi is way ahead in using the available features of acquisition module in LibSys software than IIT Kanpur. This difference in usage lies to the fact that the library staff of IIT Delhi has more knowledge of acquisition module through self training or hit and trial method. They did it because, they were confident that if their system goes down, promptly it will be rectified due to the close proximity of LibSys Headquarter. On contrary, the library staff of IIT Kanpur have never taken this kind of risk on account of fear related to the system being inactive. In case of Kashmir University, the library staff deployed in acquisition section have taken great amount of interest while receiving training on acquisition module. This interest partly owe to the fact that they were uncomfortable in acquisition module of SOUL software. Also, they have realized that acquisition is the starting point of automation process, and if they fail to automate acquisition section, the entire project of automation will come to standstill.

5. Maintenance of budget is the cornerstone element of acquisition section. The staff of all the libraries under study were disgusted with respect to management of budgets in manual methods. Now, in an automated environment, as the staff revealed, transfer of funds between different heads of the budget is possible. Apart from this advantage, staff also felt happiness that there is almost nil probability in committing mistakes as far as calculation is concerned. Some of the staff have jokingly informed that they were very weak in arithmetic’s and there were always errors committed by them in the manual calculations. Furthermore, the staff of
all the surveyed libraries were quite happy with the feature that contains a log of transactions affecting accounts which can be printed out by date and item as well as by any account operator. The finding of the present work proves the results shown in the study of (Harrison and Summers, 1988) related to acquisition section of the Lancaster Library.

6. Significantly, Electronic Data Interchange (EDI) standards promote the system interoperability and appear to the best hope for the claim process. Unfortunately, none of the surveyed libraries have been using this salient feature available in both the softwares namely LibSys and Virtua.

7. Automation has affected greatly to all the surveyed libraries. It has influenced the cataloguing division or technical section of the all these libraries. The affects of library automation have been far reaching and profound in the technical sections of these surveyed libraries. Before the migration to new software (as mentioned in the chapter-5), the staff was quite worried regarding the import of data from the earlier used software. Their worry owed to the fact that a harsh experience regarding importing of data from one software to another. However, in all these libraries, as reported by the staff, the data import was smooth and free from any hassle. This was possible as the whole process was done in the presence of representatives from library vendors. This finding suggests that the feature related to import/export of the data in the software should always be done in the presence of representative from the library vendors.

8. After acquisition, making the book ready for circulation is the responsibility of cataloguing section. Thus, the staff of cataloguing section carries the heavy responsibility for preparing a book completely for its use. In a traditional library, staff faces lot of problems in the whole cataloguing process. One of the interesting findings of the present thesis is related with the standardization. All these libraries have achieved standardization. Nevertheless, the IIT Delhi library has met
significant achievement as it has converted all its records in MARC 21 formats. The staff of IIT Kanpur library have been found less knowledgeable in the various international standards. Primary reason for this disparity is that the staff of IIT Delhi is keeping themselves more abreast of latest developments in the field of library science. They have achieved this efficiency through attending various workshops and conferences. In case of Kashmir University, the software earlier used was discarded simply in the pretext that it was not able to meet international standards and the Virtua software was procured primarily due to the fact that Virtua software is fully compatible with international standards including MARC 21.

9. Another interesting finding of the present work is related with Unicode standard. A substantial number of records available in Arabic, Persian and Urdu languages in Kashmir University library have been entered into the system preserving their native scripts. Moreover, their retrieval is also done in the same script on OPAC terminals meant for bi-directional languages. On contrary, not even a single record have been inputted in both the IITs though a significant collection in available in Hindi language. This contradiction, has been investigated, is related with the disparity in efficiency with respect to Unicode feature. This investigator has found Virtua more effective vis-à-vis Unicode feature in comparison to LibSys software.

10. In India, a large number of academic and research libraries have implemented automation process. However, none of the libraries including those which are considered as champions and leaders in library automation such as Aligarh Muslim University, Jamia Millia Islamia, Jawaharlal Nehru University, Ranbaxy, Torment Pharmaceutical Company, etc. have become the members of OCLC. Perhaps they are not aware that to what extent the membership of OCLC will benefit the staff of cataloguing division. It is noteworthy to mention here that among three surveyed libraries, IIT Delhi and Kashmir
University have become the members of OCLC. The staff of these two libraries have reported that copy cataloguing utility through OCLC database have made cataloguing very economical. This finding substantiates the study conducted by (Hirshon, 1988) related to OCLC services. On contrary, cataloguing and its associated processes such as classification and subject indexing have been reported the most Cost-effective processes in IIT Kanpur library.

11. The staff of all the surveyed libraries have realized the potentials in software regarding the compilation of Union catalogue but none of these three libraries have so far used this salient feature available in their respective softwares. Notably, the staff of both the IIT libraries have felt more need to use the feature related to Union catalogue in LibSys software and also informed this investigator that may be in the future they will use this feature for the compilation of Union catalogue of all the established IIT libraries in India.

12. Circulation section has embraced new technology of automation because it enabled the surveyed libraries to improve their services for the convenience of user community. The introduction of bar-coding system, as has been reported by all the surveyed libraries, has shed their burden to a large extent. Moreover, sending reminders through e-mail have also relieved the pressure from the staff deployed at circulation counter in each library. Apart from eliminating the long queues at circulation counter, the staff has also found the use of software very helpful in having greater control over loaned items. Staff of all these libraries have revealed that sending reminder for overdue items was tedious job in manual section. However, with the facility of e-mail, sending reminders became easier and less time consuming. This pattern of opinion has been found uniform in all the surveyed libraries. The study carried out by (Oyemakinde and Evans, 1979) is found inconsonance with this finding of the present thesis.
13. One of the major emphases of the use of latest technology is to allow library users to go for self Check-out and Check-in. The use of this technology is gradually becoming very popular in the western world; nevertheless, it is less seen among the automated libraries of India. A wonderful finding of the present work is that Kashmir University is leading with this facility of self Check-out and Check-in as the library has installed all the infrastructural facilities and accessories needed for the above mentioned facility. On contrary, IITs including the two surveyed ones which are considered as the premier institutes much ahead in reputation than a State University has failed to provide RFID solutions in their libraries. One research study indicates that user community prefer using self service process because they can control the services better as suggested by the data related to self Check-out and Check-in facility of Kashmir University.

14. Investigation related to the use of serials control module has produced the mixed results. On the one hand, there is a Kashmir University library which has nominally used serials control module. This nominal use has seen in the accessioning of bound volumes. On the other hand, there are IIT libraries which use the module for all the available facilities namely ordering, claiming, receipt and payments. Furthermore, they may generate any desired report related to periodical section. These IIT libraries have revealed that the available features, though, have lessened the burden involved in manual acquisition of serials. Nevertheless, the module has failed to provide the solution of all the problems. A study conducted by (Cotta, 1989) also revealed the shortcomings found in an existing automated system with respect to serials control module.

15. Another findings of the study is related with the electronic journals. The staff of all the surveyed libraries have been found novice about the use of software with respect to electronic journals.

16. This investigator has also found that none of the libraries are using the available Article Indexing module in LibSys software. The investigator
observed that the staff is reluctant to go for additional work in the periodical section.

17. One of the wonderful findings of the present study suggests that automation thrilled more to the users in Kashmir University in comparison to both the IITs. Table-3 has shown more than 90% of the users visit the library in Kashmir University either daily or weekly or fortnightly. The corresponding figures are 85% for both the surveyed IIT libraries.

18. Another interesting finding of the present study is related with the purpose of use. In one of the major purposes namely learning by the user community, IIT Delhi comes on the top followed by IIT Kanpur and Kashmir University. As far as research is concerned, IIT Kanpur is on top followed by IIT Delhi and Kashmir University. The data can be substantiated with the fact that in recent times, more number of researches have been patented in IIT Kanpur. Nevertheless, internet surfing for databases is done by almost same number of respondents in all the surveyed libraries.

19. Yet another finding of the present thesis suggests that automation has greatly influenced the use of library resources in all the surveyed libraries. Interestingly, around 90% respondents in all the three libraries have opined the above statement. The study conducted by (Kreslin et al., 1994) and (Sajjad ur Rehman and Reham, 2010) also substantiate this finding of the present work.

20. Another finding of the present work suggests that all the surveyed libraries have not yet discarded the manual cards. The study of (Mehtab and Amita, 2008) related with OPAC module of five libraries of Delhi also highlighted the same phenomenon.

21. Notably, the performance of the library staff rated by the users is either excellent or very good or good. By and large this tendency is seen in all academic institutions. But, this tendency is seen exceptional in all the three surveyed libraries. As the data in table-15 shows that more than
90% of the respondents have shown their satisfaction with the behavior of library staff. A small number of users however, have rated the behavior of library staff either average or poor. This category belongs to those human beings who always criticize others even if they are being served in the best possible way.

7.3 Tenability of Hypotheses

The tenability of hypothesis is verified in the light of above discussed findings and by using Chi-Square statistical test.

1. **There is a significant difference in the awareness of library softwares among the users of IITs and Kashmir University.**

The maximum and effective utilization of library softwares is directly proportional to the awareness of users with them. In this background, it is revealed from table-5 that 91.15% users in IIT Delhi and 89.67% users in IIT Kanpur reported that they are aware of library software packages. On contrary to IITs, the number of users (80.29%) who are aware of library softwares is less in Kashmir University. It is noted that there is a significant difference, which means the awareness of library softwares is higher among the users of IITs than the users of Kashmir University.

On applying the Chi-Square test, it is found that the calculated Chi-Square value (26.95) is fairly large than the Chi-Square tabulated value (5.991) with 2 degree of freedom at 5% level of significance. The Chi-Square test therefore, reveals that there is a significant difference in the awareness of library softwares among the users of IITs and the users of Kashmir University.

**The hypothesis is therefore proved.**

2. **The usage of OPAC is higher in the libraries of IITs than in the library of Kashmir University.**

The OPAC is considered as the gateway of knowledge. The maximum and effective usage of OPAC means the maximum utilization of library resources. In this context, it is revealed from the findings of table-7 that the majority of users in IIT Delhi (83.21%) followed by IIT Kanpur (82.20%) are using OPAC for search and retrieval purposes. On the other hand, this number is less in
Kashmir University, where 58.29% users search and retrieve the resources of their interest via OPAC. In this way, a significant difference in the usage of OPAC was found among the users of IITs and Kashmir University. Consequently, it is verified that the usage of OPAC is higher in the libraries of IITs than in the library of Kashmir University.

**The hypothesis is thus proved.**

3. **The users of IITs are more well-versed with the advanced search techniques in OPAC than the users of Kashmir University.**

With reference to the usage of advanced search techniques in OPAC, it is noted from the findings of table-8 that 21.76% users in IIT Delhi while 22.77% in IIT Kanpur use advanced search facility in OPAC. In comparison, a moderately low percentage of 9.33% users in Kashmir University as suggested by the collected data are using advanced search techniques in OPAC. The findings therefore, clearly reveal that the percentage of users using advanced search techniques in OPAC is higher in both the IITs than in Kashmir University.

In addition to the findings of table-8, table-9 also reveal that a significant percentage of 46.61% users in IIT Kanpur and 34.01% users in IIT Delhi use advanced search techniques comprising Boolean search, Phrase search and Truncated search facilities in OPAC. In comparison to both IITs, only 20.95% users in Kashmir University are using advanced search facility in OPAC. It is therefore, clear from the above results; that the usage of advanced search techniques in OPAC is higher among the users of both the surveyed IITs than among the users of Kashmir University.

**The hypothesis is hence proved.**

4. **The Library staff in IITs is more equipped in handling the software than their counter parts in Kashmir University.**

The expertise of library staff is the prior consideration of any effective automated library system. In this backdrop, it is revealed from the findings of checklist-4 namely serials control module, that the library staff of Kashmir University requires another level of training for making use of the available features of serials control module in Virtua software. In comparison the staff of
both the IIT libraries through different training courses and workshops on automation has gained substantial competence in efficient management of library software for its maximum utilization.

The hypothesis is hence proved.

5. **All the surveyed libraries are using all the modules available in LibSys and Virtua softwares respectively.**

Undoubtedly, the automated library systems have dramatically changed the users approach to access and retrieve the information. However, in most of the Indian libraries, manual systems are still in practice. In this direction, both the IIT libraries till date have not used the Article Indexing module available in LibSys software. On the other hand, the findings of checklist-4 i.e. serials control module reveal that Kashmir University library has not yet started to use the serials control module of Virtua software even though the bound volumes have been entered in Virtua database. The above results clearly reveal that none of the surveyed libraries is using all the modules available in LibSys and Virtua software packages.

The hypothesis is therefore rejected.

6. **The user satisfaction level with respect to the overall services of automated library system is higher in IITs than in Kashmir University.**

The overall effectiveness of any automated library system is primarily determined by the overall satisfaction of users with the services provided by it. In this backdrop, the findings of table-16 reveals that 85.94% users in IIT Delhi and 86.47% in IIT Kanpur have revealed that they are either strongly satisfied or satisfied with the overall services provided by automated library system of their library. On Contrary to IITs, the automated library system of Allama Iqbal Library, Kashmir University has taken lead as 90.66% users are either strongly satisfied or satisfied with the services rendered by it.

Besides the findings of table-16, it is also revealed from the findings of table-12 that Allama Iqbal library is giving users the facility of self Check-out and self Check-in. Remarkably, the users have shown more enthusiasm in using self Check-out and Check-in facility for issue and return of the library
resources. In the light of above findings, it is revealed that the user satisfaction with the overall services of automated library system is higher in Kashmir University instead of both the surveyed IITs.

**The hypothesis is consequently rejected.**

7. More training is required by software vendors for the effective usage of all modules of both the softwares i.e. LibSys and Virtua.

The effective and maximum utilization of library softwares requires the detailed training of all modules available in any library management system. In this respect, several findings of present study have suggested that the library staff in all the surveyed libraries requires more in-depth training from vendors to use all the available features in all the modules of their respective softwares.

**The hypothesis is hence proved.**

7.4 Conclusion

Technology has had and will perhaps continue to have a dramatic impact on library operations and services. It is the main force for changing the core work culture of library situation. The trends in technology will certainly find their way into large academic library set up. Because, the libraries must satisfy the expectations of their end users to sustain their goal, objective and existence in present techno-oriented world.

The first effort for computerization of library work started in early 1970s in India. However, it has been seen that Indian academic libraries gained significant momentum during the last decade in automating their functions and services. Presently, the large libraries of Indian Universities and IITs are in a state of implementing integrated library systems for automating their entire operations and services. But, the library staff and user community particularly in academic universities have still limited knowledge in this regard. Therefore, the implications of studies for technological changes and improvements in academic libraries are of good value to the librarians and authorities for implementing effective and successful automated library system.

The mission of central libraries of IITs and Universities, regardless of how it is stated, is to support the user community in providing them with the
pin pointed and exhaustive information however and whenever they can. The central libraries of IITs and Universities are the heart of their intellectual output mainly because; they are the corner stone of research and development of the nation. The present study reveals the performance of current status of automated library system in the central libraries of IIT Delhi, IIT Kanpur and Kashmir University in India. Its findings may suggest new dimensions and directions in providing efficient and effective access to library resources through modern and standard library softwares. The report of these findings could also be used as a roadmap for implementing successful integrating library system to meet the expectations of modern and techno-oriented users.

The researcher assumed that the libraries particularly of IITs had automated their all operations and services with appropriate capabilities. However, contrary to expectations, the present study reveals that some operations and services such as self check-in/check-out, RFID installation and complete serials control are yet to be automated in the libraries under study. While the availability of OPAC is still restricted to the campus of select IITs. On the other hand, the condition of some operations that have been automated is not encouraging.

It is hoped that the present doctoral thesis on “Usage and Effectiveness of different Library Software Packages” will gather interest to help the librarians both at State as well as at National level for implementing successful integrated library system. The findings resulted from this thesis are based on the data provided by the users and library staff of two IITs of national importance and one of the first ISO Certified University libraries of India. Notably, the findings and suggestions of this study perhaps represent the national consensus needing attention and support to solve the issues that are associated with the implementation of successful automated library system in the academic libraries of India. But, this study should not be deemed as the only viable way out to solve all the problems related to library softwares and library automation in India. However, it will serve as a guide for the librarians
and information managers to select the most appropriate software that will serve to the needs of a library and its users in a better and effective way.

### 7.5 Suggestions

On the basis of findings of the study undertaken, the following suggestions are listed for the surveyed libraries in particular and for other libraries in general in order to successfully implement automation project.

1. Selection of software should be based keeping in view the requirements of a particular library.
2. User friendliness should be the top most considerations in the selection of software.
3. It is suggested to the librarians of surveyed libraries in particular and for other libraries in general that at the time of finalization of the software, training programs regarding both onsite and off-site should be decided with the vendors under the terms and conditions of the agreement regarding the procurement of the software.
4. Library staff should periodically undergo for training courses on the use of library software.
5. It is also suggested that more number of OPAC terminals are needed in IIT Kanpur and Kashmir University.
6. A help desk should be procured for the efficient use of OPAC.
7. The surveyed IIT libraries like Kashmir University should also make use of web OPAC module available in LibSys software.
8. Like IIT Delhi and Kashmir University, IIT Kanpur should also become member of OCLC. This will ease the burden of cataloguing.
9. Although cataloguing system of the select libraries is comparatively encouraging, however, further improvements are required to use the standards like UNICODE, FRBR, RDA, etc. to enhance the cataloguing standards. Emphasis should also be given to compile a union catalogue of all IITs and Central Universities in India.
10. It was observed that both the IIT libraries are using the serials control module of LibSys. Apparently, due to lack of exposure Allama Iqbal
Library is still not using this module available in Virtua. It is therefore, suggested that its staff should undergo a thorough training on the module for its use.

11. Allama Iqbal Library, Kashmir University is using RFID Technology for self Check-out and Check-in. It also suggested to both the surveyed IIT libraries to modernize their issue and return system by installing self Check-out and Check-in as the one installed by Kashmir University.

12. All the surveyed libraries should use the Inter-library loan feature available in their respective softwares namely LibSys and Virtua.

13. Although, both LibSys and Virtua softwares used by the surveyed libraries provides an option of online reference service, which is a common feature of most of the American and European libraries. However, this service is not still in practice in the select libraries. In this regard, efforts needs to taken to provide the reference service to users via internet as per their requirement.

14. New recruitments should be done keeping in view the proficiency in handling the automation project.

7.6 **Scope for further research**

During the course of this research study, the investigator felt that following similar studies may be carried out on other types of libraries

1. A similar study may be undertaken for IIMs (Indian Institute of Management) which carry the same reputation in India as that of IITs.

2. A similar study can also be conducted for all the established IITs in India.

3. Yet another similar study may be undertaken covering the selected Central Universities of India.

4. A comparative study is also suggested between the libraries of reputed Universities of Kashmir such as Sheri Kashmir University of Agricultural Sciences and Technology (SKUAST), Islamic University of Science and Technology (IUST) and Sheri Kashmir Institute of Medical Sciences (SKIMS).
5. Yet another comparative study is also possible between the reputed College libraries of Kashmir namely Government College for Women, Maulana Azad Road Srinagar; Sri Pratap (SP) College; Srinagar; Amar Singh College, Srinagar; and Islamia College of Science and Commerce, Srinagar.

6. Similar study can be undertaken between the reputed libraries of Jammu i.e. Jammu University, Sheri Kashmir University of Agricultural Sciences and Technology (SKUAST) Jammu and Regional Research Laboratory (RRL), Jammu.

7. Yet another study is possible between the libraries of reputed State Universities of Jammu and Kashmir like Kashmir University, Jammu University and Baba Gulam Shah Badshah (BGSB) University, etc.