7.0 Introduction

In the previous chapter, the data collected is analysed and interpreted in the light of the objectives and hypotheses. The percentage as a statistical tool is used and wherever necessary, Chi-square test is applied. Tables and figures are used to make the presentation clear and simple. In the light of the analysis and findings of the research study, this chapter is devoted to the summary of main findings, suggestions, conclusion and recommendations for further research.

7.1 Summary of main findings

The main findings of the study are:

1. PUC, PUP and GNDU have developed the computer network within their buildings and it is connected with campus wide network. These three libraries are automated and have their own server. PUC, PUP and GNDU have implemented Techlib Plus, LibSys and WINISIS software respectively. They have Internet connectivity to facilitate its staff and users (Table 4.1 - 4.2).

2. All the three university libraries provide the accessibility of OPAC on the entire campus via campus wide network. PUC and GNDU provide Web-OPAC facility, whereas PUP does not offer this facility, but it has planned to provide it very soon (Table 4.3).

3. The number of computer systems for searching OPAC varies in the three university libraries. PUP provides two computer systems, PUC five systems and GNDU six systems (Table 4.1).

4. All the university libraries under investigation conduct user orientation programme once a year in order to familiarize new entrants with library services including OPAC. PUC conducts this programme for both new and old users, while the other two university libraries organize it only for fresh users.
organize this programme, the strength of users in a group varies in the three libraries. PUC, PUP and GNDU include approximately 7-10 users, 25 users and 30 users in a group respectively (Table 4.5).

5. Libraries of the three universities also maintain card form of catalogue along with OPAC. These libraries are still updating card catalogue as alternative method to search the resources of library (Table 4.6).

6. None of the libraries provide hyperlinks to online/electronic-resources through OPAC, while all the university libraries under study provide the accessibility to some e-resources (Table 4.4).

7. The librarians of all the university libraries under survey have opined that the searching of documents as well as the image of libraries have been improved after the implementation of OPAC (Table 4.7).

8. All the three OPACs of Techlib Plus, WINISIS and LibSys softwares at PUC, PUP and GNDU respectively, provide Simple and Advanced/Expert searches. Boolean search, Truncation search and Phrase search as the searching methods are available in all OPACs. Browse searching using author, title and subject has been offered in only LibSys (Table 5.1).

9. All OPACs under survey offer access points by author, title, subject, keyword and combined search for searching information regarding the documents available in their libraries. Techlib Plus (PUC) and LibSys (PUP) also provide searching through Call Number. Only LibSys offers searching by ISBN and accession number. Therefore, there is an inconsistency in the access points in three OPACs; however, all OPACs offer basic access points (Table 5.1).

10. Every OPAC offers an interface with circulation system, but there are variations in the facilities available therein. All OPACs have provision to display the document checked out or not. Except LibSys OPAC, the other OPACs have no option for inter library loan, renewal and reservation. Both Techlib Plus and LibSys OPACs display the location of copy (Table 5.1).

11. The provision of search limit is not uniform in OPACs of the three softwares. All OPACs studied provide search limits by the type/form of publications, while language limit is not found in any of the three OPACs. Besides Techlib Plus, the other two softwares offer search limit by year of publication. Each of three
OPACs offers facility for sorting the retrieved documents by author, title, and subject (Table 5.1).

12. All the three OPACs have provision for both short and long bibliographic displays. Apart from Techlib Plus, the other softwares have the provision to customize display screen as well as to limit the number of records per display. Each OPAC provides provision for library structured entry format. Only LibSys OPAC has facility for MARC format, but this feature is not being used by its library (Table 5.1).

13. All OPACs surveyed provide user assistance/on-screen help to the users on their search interfaces. These OPACs lack provision of online tutorial, procedural prompts or guidance to proceed next step during a search. None of OPACs offer spells check software which is an essential feature of OPAC (Table 5.1).

14. It has been observed that LibSys is only software in the study which has the facility of providing hyperlinks to electronic sources and access to Z39.50 protocol. The Z39.50 protocol enables catalogues to search through remote OPACs (Table 5.1).

15. It has been viewed that none of the OPACs have provision of mailboxes for users’ comments or suggestions (Table 5.1).

16. Besides LibSys OPAC, none of other OPACs have provision for new arrivals, separate search option for journals and provision for patrons to see the information regarding the books on loan, over dues, etc. All OPACs have capability to suppress initial articles and special characters (Table 5.1).

17. On average, half of respondents from all the three universities have acquired good (excellent and above average) knowledge of using computers and a considerable number (nearly 40%) of them possess average knowledge of operating computers (Table 6.7).

18. Overall, a large segment (59.4%) of users search regularly (very frequently and frequently) information on the Web/search engines in all the three university libraries (Table 6.8).

The Chi-square test was applied to evaluate the relationship of the frequency of Web searching with background, discipline, age, and category of users. It
shows that discipline, age, and category of user affect slightly the frequency of Web searching, while the frequency of Web searching with background and gender of user are not associated. The users belonging to Applied Sciences and research scholars and faculty members above the age of 35 years search the Web slightly more frequently (Table 6.69 - 6.73).

19. Overall, most (95.8%) of respondents from all the university libraries studied are aware of the existence of OPAC service. University-wise and category-wise data analysis shows almost similar kind of observations (Table 6.9 - 6.10).

20. In all the university libraries under survey, overall, majority of users are using OPAC either regularly (very frequently and frequently) or occasionally. On average, 40.1% of users search OPAC regularly and 30.2% of them use it occasionally. Category-wise analysis also reveals almost similar findings; while the percentage of faculty members for using OPAC is slightly lower (Table 6.11- 6.12).

The Chi-square test was conducted to examine the relationship of OPAC use with age, category, discipline, gender and background of user. The results reveal that OPAC use is slightly affected with the discipline and gender of user. Male users and the users from Applied Sciences use slightly more regularly OPAC facility. On the other hand, OPAC use is independent of age, category and background of user (Table 6.74 - 6.78).

21. About one-sixth of respondents from the three university libraries never use OPAC. They gave three main reasons for not using OPAC, which are: ‘Lack of knowledge’, ‘Complicated/confusing to use OPAC’ and ‘Lack of on-screen help’ (Table 6.13).

22. Almost two-third of users who never use OPAC opine that they consult card catalogue to locate the documents in their libraries as the alternate method and a large majority (82.8%) of them search themselves library shelves to locate the documents. Nearly half of users seek the help from library staff and almost equal number seek the help from the friends to find out the required documents (Table 6.14).
23. In all the three libraries, overall, a great majority of users (86.5%) prefer to use OPAC. They point out that OPAC is convenient to use in comparison to card catalogue (Table 6.15).

24. The study reflects that on average, a large majority of respondents in the three university libraries consult OPAC to know the availability of the required documents (74%) and to know their location in the library (69%). A small group (31%) of users consults OPAC to know whether the required documents are issued/check out (Table 6.18).

25. All users of the three university libraries are aware of existence of Simple search in OPAC. A large group (61.5%) of users is also aware of Advanced search available in OPAC in the three universities (Table 6.19 & 6.21).

26. In all university libraries under study, overall, great majority (72.4%) of users search the information about the documents in OPAC regularly (very frequently and frequently) through Simple search. On the other hand, a few number (7.2%) of them use regularly Advanced search (Table 6.20 & 6.22).

27. The study indicates that overall, a small number of users are aware of Boolean search in PUP (31.8%) and in GNDU (27.9%), while the lowest awareness is found in PUC (12.6%) (Table 6.23).

28. Overall, a small group of users is aware of Truncation searching method in PUC (18.5%) and PUP (19.2%), whereas a few (7.4%) users are aware of this searching method in GNDU (Table 6.25).

29. The use of Boolean search and Truncation search is negligible (0.3%) in all the university libraries under study (Table 6.24 & 6.26).

30. The present study reveals that Simple search is the most used type of search in various university libraries under investigation. Overall, a large portion (57.6%) of respondents use because it is comparatively easy to search the library resources. A small group (17.4%) of them gave the reason that they possess better knowledge to search through it (Table 6.27).

31. Overall, more than half (54%) of users face the problems even in searching the documents through Simple search in the three university libraries under survey. Almost similar kind of observations is also seen in the category-wise data. In
majority of cases, they revealed four main problems i.e. ‘No output/null retrieval’, ‘Lack of knowledge’, ‘Do not know how to narrow/expand search results, and ‘Results/output too large or too small’ for searching Simple search (Table 6.28 - 6.30).

32. It is observed in the study that the main reasons given by almost two-third of users while searching the documents through the least used searches include ‘Lack of knowledge’, ‘Complicated/confusing to use’ and ‘Do not know how to narrow/expand the search’ (Table 6.31).

33. Almost all the respondents in GNDU are aware of Author approach available in OPAC and all respondents in the remaining two universities are aware of Author approach. Hundred percent of respondents in the three universities are aware of Title approach (Table 6.32 and 6.34).

34. In the libraries of three universities, overall, a large majority of users regularly (very frequently and frequently) conduct the search on OPAC through Author approach (71.3%) and Title approach (72%) (Table 6.33 & 6.35).

35. On average, more than three-fourth of users are aware of Subject as an access point in various libraries under survey. Overall, one-fifth of users search OPAC by Subject in various universities under study (Table 6.36 - 6.37).

36. On average, a little more than three-fourth of users in PUC and 62.4% in PUP are aware of existence of Keyword approach. On the other hand, only a small group (28%) of users is aware of Keyword approach in GNDU (Table 6.38).

37. A low percentage of users use Keyword access point in PUC (18%) and in PUP (14.2%), but only few (3%) users use it in GNDU (Table 6.39).

38. The study indicates that the most used access points are Author and Title in various universities surveyed. Overall, majority (62.2%) of users stated that they conduct the searches through these approaches frequently because these access points are comparatively easy to search information about the documents, whereas one-fifth of them indicate the reason that they have acquired better knowledge to search information through Author and Title access points (Table 6.40).
39. In the three university libraries, on average, majority (60%) of users face the problems even in searching through the most used access points like the most used type of search. Almost similar kind of results is also observed in category-wise analysis. Therefore, the most used access points in OPAC are arrested with the problems. The main reasons for the problems encountered by users in these access points are ‘No output/null retrievals. ‘Lack of knowledge’, ‘Do not know how to narrow/expand search results’ and ‘Results/output too large or too small’ (Table 6.41 - 6.43).

40. The study shows that Subject and Keyword are the least used access points in all the universities surveyed. Overall, two-third of them indicate the three main reasons: ‘Lack of knowledge’, ‘Complicated/confusing to use’, and ‘Do not know to narrow/expand search results’ for searching these least used access points. All these reasons indicate lack of knowledge about the least used access points (Subject and Keyword) among the users (Table 6.44).

41. Almost half of the users are aware of existence of on-screen help/user assistance in different university libraries studied. Only a few (8%) users utilize on-screen help regularly (very frequently and frequently) and a small number (19.1%) of users use it occasionally in all libraries under study (Table 6.45 - 6.46).

42. On average, only one-fifth of users feel that on-screen help on the three OPAC systems assist them properly while searching OPAC. Overall, a low percentage (9.3%) of users experience that it is easy to use in all the universities under survey (Table 6.47 - 6.48).

43. Overall, a large group of users is unaware of orientation programme in PUC (63.6%) and GNDU (61.8%), while half of users are unaware of this programme in PUP. (Table 6.49)

44. The study shows that on average, only one-fourth of users attend the orientation programme in various libraries studied. Majority of users who receive the orientation experience that it is helpful in using OPAC in all the university libraries under investigation (Table 6.50 - 6.51).

45. It is observed in the study that overall, half of the users in the three universities opine that their libraries should conduct orientation programme at least three times in a year (Table 6.52).
46. The users who attend this programme in majority of cases feel that the strength of users in a group for conducting the orientation is suitable to solve their queries in all the universities under study (Table 6.53).

47. There is a lack of knowledge of using OPAC among the users of all university libraries under survey. Nearly three-fourth of users feel that they have not acquired adequate basic skills for using OPAC effectively. Almost similar kind of results is found in category-wise data analysis. However, the percentage of faculty members possessing basic skills for using OPAC is slightly higher (Table 6.16 - 6.17).

The Chi-square is conducted to test the relationship of knowledge of using OPAC with gender, age, discipline, category, background of user, helpfulness of orientation and frequency of the Web searching. Chi-square analysis indicates that there exists a positive relationship between knowledge of using OPAC and helpfulness of orientation, while there is a negative (inverse) relationship between knowledge of using OPAC and frequency of the Web searching. Therefore, users of OPAC need not be a good Web searcher, while they must be familiar with underlying structure of OPAC system. The gender and age of user affect slightly the knowledge of users about using OPAC. There is no association of knowledge and skills about OPAC with background, discipline and category of users (Table 6.80 - 6.85 & 6.104).

48. In PUC and GNDU, nearly half of users search information through OPAC in the same manner as they do through search engines but the highest percentage (77.6%) of users searching OPAC like search engines is observed in PUP. Category-wise analysis shows almost similar findings, while the percentage of faculty members searching OPAC like search engines is slightly higher (73.2%). The users also expressed that they initiate their searches keeping in mind searching process of Google, but many times the searches were failed and they got confused. Thus, the OPAC users are greatly influenced by Web searching (Table 6.54 - 6.55).

49. It was also found that overall, majority (58%) of users are not familiar with fact that OPAC does not function like search engines in the three university libraries. Category-wise analysis also indicates almost similar kind of results. They do not recognize the difference between what is the underlying structure
in OPAC and in Internet search engines (Table 6.56 – 6.57). These findings also support that there is a lack of knowledge of using OPAC among the users.

50. In all the university libraries under survey, overall, two-third of users think that the document is not available in the library when the search conducted by them is failed or provides null retrieval/no results. Only a small number (18.1%) of them consider that they are unable to operate OPAC and nearly equal number understand some problem in OPAC. In other words, we can say that null retrieval/no output for the users means a particular document is not available in the library, but sometimes that document exists in the library. Finally, the document of their need is not revealed to them (Table 6.58).

51. The present study shows that on average, a low percentage of users change the search options (12.2%) and Keyword (9.2%) after the search failure/null retrieval in the three university libraries. A low percentage (10.5%) of users check spelling errors. A small number (22.4%) of users seek the help from library staff and only few i.e. 3.9% users seek help from friends. On the other hand, overall, a significant number (41.8%) of users get confused and abandon OPAC searching process after the search failure/null retrieval in all libraries under study (Table 6.59).

The Chi-square test conducted to evaluate the association between the frequency of Web searching and the action of users after search failure showed that there exists a relationship among both variables. It indicates that frequently searchers of the Web become more confused and finally abandon the searching process after the search failure (Table 6.101).

The Chi-square test is also applied to examine the relationship between the search failure and the method of OPAC searching like search engines. It revealed that there exists the relationship between the two variables. It indicates that majority of users who use OPAC like search engines get confused and abandon OPAC search (Table 6.102).

52. In different university libraries under study, on average, a small proportion (28.9%) of users view that library staff is available regularly (always and usually) near OPAC to assist them. Almost equal number of them observe the library staff available occasionally near OPAC (Table 6.60).
53. It is evident from the study that a great majority (70.8%) of users regularly need the assistance of library staff near OPAC in the three university libraries (Table 6.61).

54. It is found in the study that overall, majority of users point out that the number of OPAC terminals is adequate in PUC (57%) and GNDU (60%). While a small number (27%) of users feel that the number of OPAC terminals is adequate in PUP, as this library provides only two terminals (Table 6.62).

55. On average, two-thirds of users in all the three libraries studied express that the speed of OPAC terminals is fast to retrieve information about the documents (Table 6.63).

56. In all the three university libraries, overall, a small portion (21.4%) of users feel that OPAC is user friendly/easy (very easy and easy) to use. Almost similar kind of observations is found in category-wise analysis (Table 6.64 - 6.65).

The Chi-square test is conducted to test the relationship of ease of OPAC use with age, background, category, discipline and gender of the users. Chi-square analysis presents that the ease of OPAC use is independent of age, background, category, and gender of users. On the other hand, the discipline of users affects slightly the ease of using OPAC (Table 6.86 - 6.90).

The Chi-square test is also applied to know the relationship of ease of OPAC use with the frequency of Web searching, knowledge of OPAC use, ease of on-screen help and assistance of library staff. The majority of frequently Web searchers do not feel OPAC easy to use. While there exists positive relationship between ease of OPAC use and knowledge of OPAC use, ease of on-screen help and assistance of library staff. Therefore, the present study indicates that good knowledge about OPAC leads to the ease of OPAC use (Table 6.91 - 6.92 and 6.105 - 106).

57. On average, one-fourth of users in the three university libraries are satisfied (fully satisfied and satisfied) with OPAC use and category-wise analysis also reveals almost similar kind of observations (Table 6.66 - 6.67).

The Chi-square test is used to analyze the relationship of users’ satisfaction level with age, background, category, discipline and gender of
users. It presents that user satisfaction level remains unaffected from the age, background, category, and gender of users. While the discipline of users affects slightly the level of satisfaction of users (Table 6.93 - 6.97)

The Chi-square test is also conducted to test the relationship of user satisfaction level with the Web searching, knowledge about OPAC, ease of on-screen help, ease of OPAC use and assistance of library staff. The Chi-square results reveal that the searchers of the Web are less satisfied with OPAC. On the other hand, there exists positive association between the satisfaction level and knowledge about OPAC, ease of on-screen help, assistance of library staff and ease of OPAC use. Thus, it is proved from the study that the user-friendly OPAC increases the level of satisfaction among the users (Table 6.98 - 6.100 and 6.109 - 6.110).

58. It is observed in the present study that overall, a large majority (71%) of users in the three university libraries like to improve search options and a significant number (44.1%) of them also want to improve on-screen help; they want both of these features of OPAC more user friendly (Table 6.68).

59. Overall, a large portion of users from various universities under study like to incorporate automatic error correction (61%), online tutorial to learn how to use OPAC (55%) and retrieval mechanism like search engines (58.2%) in the OPAC (Table 6.68).

60. On average, more than half (53.3%) of users in all libraries studied feel to provide hyperlink to online/electronic resources through their OPACs (Table 6.68).

7.2 Suggestions

On the basis of observations and findings of this research study, following suggestions are given:

1. No doubt, the university libraries under survey organise user orientation programme, but these libraries conduct this programme only once in a year. The study reveals that it improves the knowledge and skills of using OPAC. Hence, it should be organized quarterly to familiarise with the services and facilities of libraries including OPAC.
2. The library staff can make the use of OPAC easier through good training. All university libraries should provide special training to learn how to use OPAC effectively. The special training can, certainly, have a positive effect on user search behaviour and attitude in using OPAC. The special training should be provided at least four times in a year because the users cannot understand OPAC working by receiving training only one or two times in a year.

3. The study reveals that the awareness of orientation programme is found to be low in the three university libraries. These libraries have to adopt some new and constructive methods to increase the awareness about the orientation programme.

4. It is clear from the present study that there is a lack of awareness about Boolean and Truncation searching methods among the users of the three university libraries. Therefore, the users should be made more familiar to these searching methods to utilise OPAC optimally.

5. Only a small segment of users use OPAC by Subject and Keyword in all the university libraries surveyed. So the library staff needs to take some initiatives to make the users familiar about the aforesaid search approaches to exploit OPAC service to the maximum extent.

6. It is evident from the present study that the users have not acquired adequate knowledge and basic skills of searching OPAC in the three university libraries. Hence, they are not expert searchers of OPAC. In such a situation, they need the assistance from library staff to facilitate them near OPAC for effective and maximum utilization of this service.

7. All the libraries under study need to arrange lectures, tutorials, demonstrations and workshops on OPAC use to make the users familiar with the facilities of OPAC, as there is no special instructional programme or training on OPAC use other than orientation programme.

8. The three university libraries may establish a platform/forum or quality circle where the users can meet at least twice or thrice in a year to discuss the problems regarding OPAC use and to make the recommendations for such problems. This will be helpful in searching of OPAC optimally.
9. The university libraries may organise debates, talks and competitions on OPAC use. On such occasions, the libraries may introduce some awards/prizes for the best users to motivate them for learning how to use OPAC.

10. The observed responses on the overall ease of OPAC use/user-friendliness of OPAC indicate that on average, OPAC is difficult to use. Therefore, it is required that the software developers should try to develop simpler search options to use OPAC effectively.

11. The libraries should provide online tutorial to learn how to use OPAC for the users. The system vendors may also offer in-built online tutorial on OPAC search interfaces to train the users.

12. OPAC systems are not yet self-explanatory. The users need user-friendly on-screen help how to start the search process to get satisfactory the search results. The present research study reveals that on-screen help available on various OPAC systems under survey is difficult to use. In the present age of information technology, the users sometimes hesitate to approach the library staff/reference librarians for the assistance because it means lack of computer knowledge on their part. That is why they feel inferior about not knowing OPAC working. On the other hand, they seldom read and follow the given instructions on the systems. Therefore, the library software developers should integrate on-screen help which is easy to understand to the users. It should provide step-by-step instructions representing exactly what they need to proceed the search. Furthermore, it may provide a context-sensitive help above the search input box that will tell them how to input an author search, a title search, a keyword search, etc.

13. The users sometimes do not know that they have misspelled their search terms. They seldom check spelling errors and frustrate with null retrieval/search failure. Almost similar kind of observations is found in the three universities. Therefore, all OPACs studied need to incorporate automatic error correction programming. Feedback like ‘Please check your spelling’ or ‘Did you mean to search for’ can be very helpful to users.

14. It is evident from the study that a great majority of users use the Web/search engines in various libraries under survey: they search information through
OPAC like Web search engines. While search engines offer a number of features that are not observed in OPACs under survey. Some features are natural-language entry, spell checking, popularity tracking, relevance-ranked output and similar pages. These functionalities have raised the expectations among the users for searching OPACs. They expect OPAC to function like the search engines. Therefore, OPAC should be designed as simplistic as Google or similar search engines. This information should be conveyed to library software vendors. For this purpose, there is also a need of co-ordination between the vendors and librarians.

15. It is strongly suggested that the libraries should provide hyperlinks to their online/electronic resources through their OPACs. The users have expressed the views for the same in all the university libraries under study.

16. Except LibSys, OPACs of other two systems do not offer the provision of new arrivals, separate search option for journals and the provision for patrons to see the information regarding the books on loan, over dues, etc. Therefore, the other two systems should incorporate these aforesaid features. Among these features, the list of new arrivals is the most important feature of OPAC.

17. It is felt that the system designers should provide two separate search interfaces on OPAC system for novice and experienced/expert users. As some users are novices for OPAC system in the universities.

18. The study shows that none of the OPACs surveyed provide provision of mailboxes for users’ comments or suggestions. Therefore, the library software developers should also include this feature in OPACs because it can be very useful for the libraries to improve OPAC service.

19. It is found that there is a lack of terminals to search OPAC in PUP. Therefore, this library should add at least three terminals for the same.

7.3 Conclusion

The main purpose of this research study is to find out users’ perception about facilities and services available in OPACs and to assess the extent to which OPACs are being used in university libraries under study. The users are using their OPACs almost regularly and at the same time, they are facing some problems in all the three university libraries surveyed. The problems that they face are lack of awareness about some
search options and facilities of OPACs as well as lack of knowledge about using these search options and facilities effectively. Majority of users are dissatisfied with OPAC systems. Therefore, to make OPAC easier to use, a well-designed user-friendly on-screen help is necessary to explain the function of OPAC. While, a well-designed user-friendly on-screen help is not a substitute for user-friendly OPAC design, but can overcome some problems in system design. The results of the study indicate that users of three universities are equipped with good computer skills but possession of computer skills alone is not adequate for efficient use of OPAC.

It is found in the present study that overall, the results obtained from different OPACs on various aspects are almost similar with slight variations. Therefore, a number of different features and user-friendliness of OPACs do not affect greatly the ease of use and satisfaction of users unless the users are aware of full features of search options and facilities as well as they acquire conceptual knowledge and basic skills of using them. The effective use of OPAC largely depends on attitude, behaviour and practice of users rather than on user-friendly OPAC alone. Hence, the users need special training to be acquainted with actual framework for searching OPAC; it will improve their knowledge and basic skills and also change their attitude and search behaviour towards OPAC. Therefore, the university libraries should organize training programmes at least four times in an academic year, because they can not be expert in using OPAC by getting training only once or twice in a year. It is also felt to have a forum/platform for regular interaction between the user and library staff to overcome the problems related to OPAC and ensure better and optimum use of this service.

It is also observed in the study that the users generally value the quickest and easiest way to search the information in the library; they expect the same in the case of OPAC and want to spend a little time on OPAC system. Today, the library users are Web searchers; Web searching has influenced their OPAC searching process to a great extent. The users have very high expectations from OPAC that it should work in similar way as ‘Google’ does to retrieve the information. At the same time, they are not well-versed with the accurate understanding of how information is structured in OPAC and how their search results are affected by underlying structure. In such a situation, the librarians have to ponder what changes should be made to OPACs. It is high time for the librarians to convey users’ expectations and the problems users encounter with OPACs to library software developers and they should also collaborate with them.
OPAC system designers must recognize users’ needs. Therefore, the system designers should design the user-friendly retrieval mechanism of OPAC as the search engine like Google offers. Ultimately, the university libraries need to provide a user-centred, simplistic, self-sufficient along with standard on-screen help and twenty-first-century OPAC that also suits today’s Web savvy users. The ultimate goal is that the users should be comfortable and confident while using OPAC without any type of training and assistance.

7.4 **Recommendations for further research**

In view of the present research, the following recommendations may be carried out:

1. The study is confined only to university libraries of Chandigarh and Punjab. Therefore, this study can be extended to various university libraries in different parts of the country.

2. Further studies can be undertaken on OPAC in special libraries in different states of India.

3. This study is based on the observations on the three different OPAC systems. To make the study more comprehensive and comparable, further research can be carried out on the users’ point of view by involving various universities from different parts of India on a single OPAC system installed at different university libraries.