CHAPTER VI
FINDINGS, CONCLUSION AND SUGGESTIONS

This chapter concludes this research study by summarising the findings of the study with the implications they present in accessing resources by the research scholars, presenting the contribution of this research to knowledge, suggestions for optimum use of resources and directions for further research.

6.1 Findings of the Study

The findings emerged from the analysis of data made in the fifth chapter as presented here.

1. Thirty eight per cent of the research scholars belong to the age group of 26-35 years, it is followed by 34.2 per cent belonging to 36-45 years, 16.5 per cent belonging to the age group of above than 45 years and less than 25 years by 10.9 percent.

2. Under the age group of above 45 years, female research scholars are more (22.7 %) than their counterparts (12.6%).

3. Locality-wise distributions of respondents show that 390 respondents (45.8%) belong to the rural areas. Research scholars from the urban area constitute 30.6 per cent and the respondents belong to semi-urban area represent 23.6 per cent.

4. Fifty nine per cent of the respondents are doing their research work on full–time basis, while 36.7 per cent on part-time basis. It also indicates that there are 3.8 per cent respondents on Faculty Development Programme.
5. Majority (56.7%) of the respondents are Ph.D scholars and the remaining 43.3 per cent are M.Phil scholars.

6. Majority of the respondents (50.4%) are from the Arts and Humanities disciplines and the remaining 49.6 per cent are from science discipline.

7. Twenty nine per cent of the respondents just started their research work, 35.2 per cent completed 2 to 3 years and 35.9 per cent of the respondents have more than 3 years experience in research.

8. Majority of the respondents (62.3%) participated and presented research papers in seminars; it is followed by 27.2 per cent of respondents in workshops and 15.5 per cent in conferences.

9. Twenty four per cent of the respondents published articles in journals at the national level; only 36 out of 852 respondents (4.2%) have contributed at the international level. But unfortunately 72.2 per cent of the respondents have made no contribution.

10. Four hundred and five out of 852 respondents know very little about computer operations but at the same time 33.5 per cent of the respondents are very familiar with computer operations. It also shows that 162 respondents have much knowledge in computer operations.

11. Working hours of the library show that 29 (63%) libraries in the research centres work for 8 hours per day and 10 (21.7%) libraries for more than 8 hours per day. Only 7 (15.3%) libraries work for less than 8 hours per day.

12. Majority of the libraries in the research centres of south Tamil Nadu have worked six days per week (60.8%) followed by 19.6 per cent of libraries five days per week except government holidays.

13. Majority (47.8%) of the respondents report that open access system is followed in their libraries, 21.72 per cent of the respondents informed
that the closed access system is followed and 30.5 per cent of the research scholars reported that both are followed.

14. Departmental library as a preferred place for accessing information (43.7%), central library to 31 per cent and the university libraries accessed by the remaining 25.4 per cent.

15. Among the various facilities available to the research scholars most popular among them are: reference service (80.9%), internet service (70%), print journals (65.5%), bibliographic service (64%), and abstracting and indexing service (37.3%).

16. Availability of the different types of journals in the libraries show that subject related and specific area related journals are available 32.7 per cent and 20.4 per cent respectively in libraries. All types of journals are available only in 6 out of 46 research centres.

17. Twenty six libraries in the research centres have journals in print form. It is followed by electronic in 17 libraries and both in 3 libraries.

18. Twenty two out of 46 (53.5%) libraries in the research centres have more than seven print journals, and 11.6 per cent libraries have more than 10 print journals.

19. Twenty out of 46 research centres have more than 10 electronic journals in the specific research area, 12 out of 46 between 7 and 9 electronic journals, 11 out of 46 have 4 and 6 electronic journals and 3 out of 46 libraries have in between 1 and 3 electronic journals.

20. Majority of the respondents (53.9 per cent) visit the library daily for accessing information 234 (27.5%) respondents visit the libraries of their research centres at least once a week and 111 scholars visit once a month.

21. Forty eight respondents spent at least one hour per day in the library, 114 respondents spent at least 1-2 hours per day, and 201 respondents
spent 3-4 hours per day. It also reveals that 21.5 per cent of the respondents spent more than four hours per day in the library.

22. Most of the research scholars (60.6%) are always using the print journals, 25.7 per cent use the print journals sometimes and 13.7 per cent rarely use the print journals.

23. There is a significant association between locality, discipline, age and use of print journals among the research scholars.

24. Gender, university and research programme have no influence on the usage of print journals among the research scholars.

25. There is a significant association between use of print journals and category of research scholars and period of research.

26. There is a mixed response among the research scholars towards quality perceptions of print journals. Ninety respondents out of 852 (10.6%) have opined that the quality of print journals as ‘excellent’, 22.5 per cent as ‘very good’ and 38 per cent as ‘good’, whereas, 19.4 per cent of the respondents have opined that the quality of print journals as ‘poor’ and 9.5 per cent as ‘fair’.

27. The printed sources like text books and monographs are found to be most useful to 57 per cent of the respondents, more useful to 28.9 per cent of the respondents and little useful to 14.1 per cent of the research scholars.

28. Journals and conference proceedings are found to be the most useful to 40.8 per cent of the research scholars, more useful to 22.5 per cent, little useful to 30.3 per cent of the respondents and not useful to 18 scholars.

29. Reference sources like encyclopaedia, handbook, and directories are found most useful to 49.3 per cent of the research scholars, more useful to 30.3 per cent of the respondents, little useful to 15.1 per cent of the respondents and 15 scholars reported that they have no usage.
30. Patents and standards are found most useful to 43 per cent of the respondents, more useful to 19.4 per cent and little useful to 19 per cent of respondents and least usefulness to 18.7 per cent of the respondents.

31. Reports literature and government documents are little useful to 50 per cent of the respondents, and more useful to 24.6 per cent and less useful to 13.4 per cent of the research scholars.

32. Periodicals are not received on time is the major problem for the research scholars among the various problems while using print sources. It is supported by 93.7 per cent (798 respondents out of 852) of respondents. It is followed by only one user at a time (81%), late publication (73.2%), information scattered in many sources (68.3%), lack of time (63.7%), needed information is not available (60.2%) and not easy to trace out back volumes (47.2%).

33. Majority of the research scholars (85.9%) are aware of electronic journals available on the internet and 14.1 per cent of the respondents are unaware of electronic journals.

34. There is a significant association between the awareness of research scholars about e-journals and gender ($\chi^2$ value = 33.15, p<0.05) with one degree of freedom at 0.05 level.

35. There is no significant association between awareness of the research scholars about e-journals and discipline in which they belong ($\chi^2$ value = 5.20; p>0.05); status of research ($\chi^2$ = 2.33, p>0.05); and University ($\chi^2$ = 0.090, p>0.05).

36. Research scholars are aware of e-journals irrespective of the locality, and category research.

37. There is a significant association between the awareness of research scholars about e-journals and age ($\chi^2$ = 55.12, p<0.05); and type of research programme ($\chi^2$ = 38, p<0.05).
38. Sources motivated the research scholars to use electronic journals are: librarians (62.65%), research supervisor (59.41%), through participating seminars and conferences (54.98%), and friends (54.15%).

39. Frequency of using the internet reveals that 25 per cent of the research scholars use the internet daily for their information need, at least once in a week by 33.8 per cent, once in fifteen days by 9.2 per cent and once in a month by 11.6 per cent.

40. Google is the most preferred search engine (30.3%), it is followed by Yahoo (25.4%) and AltaVista is used by 16.5 per cent of the respondents.

41. Forty seven per cent of the respondents have awareness up to 10 electronic journals. However, 30.3 per cent aware of more than 10 electronic journals in their respective subjective area.

42. Most preferred place for accessing electronic journals by the research scholars is library (25%). It is followed by University library by 23.2 per cent, through private net cafe by 22.5 per cent, from home by 18 per cent and other places by 11.3 per cent.

43. Majority of the research scholars 660 (77.5%) access electronic journals from the libraries of the research centres at free of cost, 15.1 per cent perceived the cost collected from the research centre is a reasonable one.

44. Thirty one per cent of the research scholars are highly satisfied with the internet sources, 15.8 per cent satisfied, 27.1 per cent of the respondents dissatisfied, whereas 25.7 per cent of the respondents very dissatisfied with internet sources. However, 411 respondents (49.4%) are highly dissatisfied with the CD-ROM databases, 22.5 per cent dissatisfied, and 10.6 per cent satisfied.
45. Satisfaction of the research scholars towards the electronic journals of payment type shows that only 17.3 per cent of the respondents are highly satisfied, whereas 31 per cent of the respondents have dissatisfied. However, 41.2 per cent of the respondents are highly satisfied with the free and open source electronic journals, 25 per cent satisfied, 19 per cent dissatisfied and 14.8 per cent highly dissatisfied with free and open source journals.

46. Barriers felt by the research scholars while accessing e-journals are low and the intensity of the perceived barriers varies among the research scholars.

47. Research scholars perceived the various advantages of electronic journals at varying degree and what the majority of them have perceived is either very important or important.

48. Majority of the research scholars (61.3%) prefer electronic journals ‘for quick access to data/information; to access more comprehensive information, majority of the research scholars prefer (58.8 per cent) print journals only; for more recent accurate information research scholars still depend more on print sources (60.2%) and majority of the research scholars (52.5%) prefer print sources in order to supplement digital sources.

49. Majority of the respondents (85.9%) from arts and humanities depend fully on the print journals and 14.1 per cent to some extent while, 65.5 per cent of the respondents from science faculty depend fully on print journals, and 34.5 per cent to some extent.

50. Reasons for using print journals by the researchers are easy to use (68.78%), no need to have computer knowledge(60.89%), print journals could be used at any time (57.46%), easy to take multiple copies
(48.46%), economic (38.92%), no need to others help (37.4%) and easy to get back volumes (35.4%).

51. Research scholars have positive opinion towards e-journals.

52. Research scholars do not differ significantly in opinion towards e-journals with respect to gender, universities, period of research, and computer literacy.

53. Research scholars differ significantly in opinion towards e-journals with respect to age, discipline, locality and category of research.

54. When browsing the current issues of a journal, 27.5 per cent of respondents prefer only print sources, 12.3 per cent mostly prefer print journals, 25 per cent either print or electronic journals, 22.5 per cent prefer only electronic journals and 12.7 per cent mostly prefer electronic journals.

55. Twenty three per cent of the research scholars prefer only electronic journals while searching for titles of the articles and it is followed by 20.8 per cent who mostly prefer electronic journals.

56. Thirty two per cent of the research scholars prefer both print as well as electronic journals in order to keep current in their respective field. Only 12.7 per cent prefer electronic journals alone and 17.6 per cent of respondents mostly prefer electronic journals.

57. Preference of research scholars for print and electronic journals when accessing current information for intellectual work other than the research.

58. Research scholars prefer print sources more for copying articles from journals than electronic journals. Print journals are definitely preferred by 31.7 per cent of the respondents and mostly preferred by 232. per cent of respondents.
59. Preference of respondents for comparing and contrasting several articles at once is more for e-journals than print journals. For the purpose, 31 per cent of the respondents prefer both the print as well as electronic journals, only electronic journals by 27.5 per cent of respondents and mostly preferred by 16.9 per cent of the respondents.

60. In order to locate and access specific facts, 29.2 per cent of the respondents prefer print journals alone and 16.9 per cent of respondents mostly prefer print journals.

61. When citing articles, 31.3 per cent of the respondents prefer print sources alone and mostly prefer print journals by 6.3 per cent. However, 24.3 per cent of the respondents prefer both print and electronic journals. Electronic journals alone are preferred by 26.1 per cent and mostly prefer e-journals by 13.4 per cent of the respondents.

62. Major reasons for using electronic journals are in the order as follows: easy to use (59.35%) can be used when power is on (58.76%), have computer knowledge (55.57%), need others help (45.42%), 24 hours access (42.1%) and remote access (38.95%).

63. Majority of the respondents prefer print journals to fulfil their information needs related to research. It is supported by 69.7 per cent of the respondents, while 30.3 per cent of the respondents prefer electronic journals which is the better choice.

64. To maximize the utilization of print journals among the research scholars, 28.9 per cent of respondents suggested to have the current content list by it is followed by proper maintenance of back volumes of journals by 22.2 per cent, compiling a list of print journals available in the library by 20 per cent, proper motivation and user orientation by 15.5 per cent and current awareness service and selective dissemination of information by 13.4 per cent.
65. To maximise the utilization of electronic journals require personal assistance to use e-journals (25 %), it is followed by user orientation and user awareness by 17.6 per cent, compiling a list of available electronic journals by 16.9 per cent, compiling a list of freely available e-journals by 16.5 per cent, enough infrastructure facilities and conducting workshop for the promotion of e-journals by 8.5 per cent.

6.2 Discussion on Findings of the Study

The present study analyses the usage of print and e-journals by the research scholars of the southern districts of Tamil Nadu. The findings of the present study are analysed with the findings of earlier studies conducted in this area.

The various facilities offered by the library to the scholars are: reference service, internet service, usage of print journals, abstracting and indexing services and so on. This finding is similar to the findings of studies conducted by Kumbar (2007), Zainab (2004), Haridasan and Khan (2009), Mulla and Chandrasekara (2007).

Availability of e-journals accessibility in the research centres is only minimum.

The present study revealed that there is an association between the usage of print journals and the locale, type of research scholars, and present status of research.
Findings also revealed that research scholars are aware of e-journals. This is similar to the findings of Haridasan and Khan (2009).

Usages of print journals are more among the research scholars of Arts and Humanities than Science, whereas usages of e-journals are more among Science than Arts. The same finding is reflected in the studies conducted by Gowda and Shivalingaiah (2009), Krishna et al. (2008), Chokhande and Dongre (2004), and Tenopir (2003).

Research scholars are motivated by the library professionals to use e-journals followed by the research supervisors. This is similar to the findings of Chinnasamy et al. (2007).

Google is the most preferred search engine among the research scholars. This is similar to the findings of the studies conducted by Sharma et al, during 2008 among the research scholars in Kurukshetra University.

The analysis revealed that for certain specific reasons print journals are preferred by the research scholars than e-journals. It has been similar to the findings of Khasier and Pramodini (2007).

Research scholars have positive opinion towards e-journals and they differ with respect to age and type of research and do not differ significantly in gender, discipline, category of research, locality and literacy. This is similar to

6.3 Implications of the Study

Based on the findings evolved from the investigation, the researcher has made an attempt to put forth the following as the implications of the study.

1. The findings of the study are an eye opener for the library professionals, educational planners and co-ordinators of research centres to provide minimum facilities in the libraries of research centres and libraries of the institutions, up-to-date collection of reading materials, current journals both in print as well as electronic, and other facilities such as computer, photocopying and printing.

2. The study revealed that most preferred place for accessing resources by research scholars is departmental libraries of research centres. Hence, the authorities concerned must come forward to provide all necessary facilities for accessing both print and electronic journals.

3. Outcome of the present study stresses the need for more library facilities to be strengthened in the areas such as Current Awareness Service, Selective Dissemination of information, CD-ROM database services, OPAC, and e-journal consortia. Therefore, the authorities concerned and the library professionals must ensure these services to the research scholars for the optimum usage of print and e-journals.

4. Authorities concerned must ensure all the necessary infrastructure facilities in the libraries of the research centres in order to ensure print and e-journals accessibility to research scholars.
5. The study also revealed the discipline wise disparity in usage of print and e-journals among the research scholars. Research scholars belonging to Science disciplines use e-resources more than Arts faculty. Hence, proper training, motivations and information literacy skills are to be provided for the maximization of usage.

6. In order to ensure maximum coverage of e-journals accessibility to the research scholars, they must be motivated by the library professionals to use Open access Educational Resources (OER) such as DOAJ (Directory of Open Access Journals), and other reliable e-resource consortia.

6.4 Conclusion

Print and electronic sources are complementing and supplementing each other to cater to the information needs of research scholars in the southern districts of Tamil Nadu. Libraries of the research centres should provide value added services to the research scholars through extending e-resources accessibility by establishing link with various e-resource consortia. Usage of e-journals by research scholars are to be strengthened in order to produce qualitative research output in their respective areas of research. The factors that influence the usage of print and electronic journals must be identified at the earliest for the optimum use. The mindset of the research scholars is to be changed to accommodate new innovations in the field of scholarly communications of information.
6.5 Suggestions

The investigator puts forward the following suggestions based on the findings of the study.

1. Library orientation classes are to be provided to the research scholars for effective utilization of both print and e-resources.
2. Awareness among the research scholars should be created through training programmes to increase the use of e-journals.
3. List of available resources both in print and electronic journals should be displayed in the libraries of the research centres.
4. Libraries should come forward to provide Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) services to the research scholars based on their areas of research.
5. Libraries should prepare compilation of bibliography services based on the areas of interest in respective research centres.
6. Libraries should ensure minimum infrastructural facilities such as computer, internet, xerox facilities and printout for accessing e-resources effectively.
7. Facilities such as N-List for accessing e-resources must be extended to all research centres.
8. List of open resources for accessing scholarly content is prepared and made available to the research scholars.
9. Information literacy skills are to be developed among the research scholars for retrieving relevant information from electronic environment.
6.6 Suggestions for Further Research

Every research work offers some unexplored areas for further research.

The present study also puts forward some areas for further research.

1. The study may be replicated by including more number of respondents.
2. A comparative study may be conducted among the research scholars on the usage of print and electronic journal based on discipline such as Arts, Humanities and Science.
3. Similar study may be conducted on the attitude and awareness among the research scholars towards print and e-journals.