CHAPTER VI
FINDINGS, SUGGESTIONS AND CONCLUSION

The present study analyses the user perception and usage of open access resources by the academic community in the higher education system in Kanyakumari district. Findings which emerged from the analysis are presented in this chapter. It is followed by discussion on findings, suggestions and recommendations, suggestions for further research and conclusion.

6.1 Findings of the Study

Based on the analysis of collected data the following findings are made.

1. The majority of the respondents (52.6 per cent) belong to female category and the remaining 47.4 per cent belongs to male category.

2. Forty seven per cent of the respondents belong to rural background, 36.8 per cent from urban and 15.8 per cent from semi-urban.

3. Most of the respondents (49.8 per cent) belong to the age group below 25 years and 6.6 per cent of the respondents are above 40 years.

4. In the present study 42 per cent of the respondents are from Engineering Colleges, 36.8 per cent are from Arts & Science Colleges, 14.7 per cent are from Education Colleges and the remaining 6.4 per cent are from the University.

5. Majority of the respondents (71.6 per cent) belong to self-financing institutions, and the remaining 28.4 per cent belong to Government-aided Institution.

6. Majority of the respondents (52.6 per cent) belong to post graduate students category.

7. Majority of the users (57.7 per cent) who uses e-resources are somewhat familiar with computer and 38.2 per cent of the users are well familiar with computer.
8. Majority of the users (66.1 per cent) in the higher education system have experience in using electronic resources for more than two years.

9. Google is the most preferred search engine for accessing e-resources among the users in higher education system (91.1 per cent).

10. Majority of the users in the higher education system (51.9 per cent) uses Uniform Resource Locater (URL) as a technique for retrieving relevant information from electronic resources, whereas, 66.6 per cent prefer search engine, 66.8 per cent prefer subject term, 67.1 per cent prefer keywords, title by 72.5 per cent and 27.6 per cent prefer digital object identifier as techniques for retrieving information.

11. Academic community in the higher education system get informed about open access resources through seminar/conferences/workshop (65.7 percent), websites (65.8 per cent), e-mail services (55.9 percent), and library professionals (52 per cent).

12. Majority of the users (59.4 per cent) use open access resources for the purpose of studying course material. It is followed by, for research /project work by 44.9 per cent, for update subject knowledge by 44.6 per cent, for teaching purpose by 35.7 per cent, for writing papers/articles by 31.8 per cent and other academic purposes by 26.8 per cent.

13. Majority of the users (50.1 per cent) prefer open access resources due to its flexibility.

14. Lack of knowledge and misconception about open access resources led them to keep away from using open access resources.

15. Forty nine per cent of the users in higher education system are fully aware of open educational resources.
16. There is no significant association between gender and awareness towards open access resources ($\chi^2 = 2.434$ at 2 degrees of freedom, $p = 0.296$).

17. There is an association between locality and level of awareness towards open access resources ($\chi^2 = 17.118$; $p < 0.05$).

18. There is an association between type of student user and their awareness on open access resources ($\chi^2 = 24.631$; $p < 0.05$).

19. There is an association between the category of faculty user and their awareness towards open access resources.

20. There is an association between user category and awareness towards open access resources ($\chi^2 = 26.424$; $p < 0.05$).

21. There is an association between computer familiarity and awareness on open access resources ($\chi^2 = 67.612$; $p < 0.05$).

22. Awareness of users in higher education system towards various open access resources are in the order: institutional websites (80.3 per cent), followed by open access journals by 79.2 per cent, open access e-book by 70 per cent, personal blogs and websites by 57.1 per cent, open access database by 56.4 per cent and open access repositories by 29.7 per cent.

23. Majority of the respondents have medium level awareness towards open access journals such as DOAJ, open access library, Indian Academy of Sciences, OAJSE, IETE, Open J Gate and open access portals of payment journals.

24. Users in higher education system have medium level awareness towards various open access repositories such as the directory of open access repositories (45.9 per cent), networked digital library of thesis and dissertations (43.2 per cent), shodhganga (39.6 per cent), National Programme on Technology Enhanced Learning (NPTEL) (39.8 per cent), open courseware (44 per cent) and National Institute of Science Communication and Information Resources (45.5 per cent).
25. Majority of the users in the higher education system have only medium level awareness towards various open access resources such as open access databases (42.7 percent), open access e-books (47.9 percent), institutional websites (49.7 percent) and personal blogs and websites (53.2 percent).

26. Academic community in the higher education system uses open access resources mainly for accessing research articles (88.1 percent), research reports (77.3 percent) and specific information on their respective subject (71.5 percent).

27. Academic community in the higher education system uses open access resources daily by 28.3 per cent, at least once in a week by 43.7 per cent, once in a fortnight by 6.6 per cent and at least once in a month by 21.4 per cent.

28. There is an association between gender of the academic community and frequency of using open access resources ($\chi^2 = 47.95; p < 0.05$). Users of female category are using open access resources more frequently than their male counterparts.

29. There is no significant association between the locality of the academic community and frequency of using open access resources.

30. There is an association between the age of the academic community and frequency of using open access resources ($\chi^2 = 30.68; p < 0.05$). Users of age below 25 are using open access resources more frequently than other age groups.

31. There is an association between student user discipline wise and frequency of using open access resources ($\chi^2 = 57.83; p < 0.05$). Users from Engineering Colleges are more frequently using open access resources than others.
32. There is an association between type of faculty members and frequency of using open access resources. Faculty members of engineering colleges are using more frequently than others.

33. There is an association between the type of user among the academic community in the higher education and frequency of using open access resources ($\chi^2 = 26.93; p < 0.05$).

34. Majority of the users in academic community in the higher education system (50.6 per cent) spent 1-2 hours for accessing open access resources per week. It is followed by 31.8 per cent of the respondents spent less than one hour per week and 17.6 per cent spent more than two hours per week.

35. There is no association between gender of the academic community in the higher education system and the time spent for accessing open access resources.

36. There is a significant association between locality of the academic community in the higher education system and time spent for accessing open access resources per week ($\chi^2 = 9.63; p < 0.05$).

37. There is a significant association between age of the academic community in the higher education system and time spent for accessing open access resources per week ($\chi^2 = 22.69; p < 0.05$).

38. There is a significant association between user category of academic community in the higher education system and time spent for accessing open access resources per week.

39. Majority of the respondents (58.5 per cent) preferred library as the convenient place for accessing open access resources by the academic community.

40. Most of the users in the academic community in the higher education system (45.4 per cent) use open access resources since it is freely available. The other reasons for using open access resources are easy to collect and open access resources have quality and reliable information.
41. About 37% of academic community in the higher education system uses open access resources to present papers in various academic forums.

42. More than 34 per cent users in the academic community always use institution website and open access e-book, 20.6 per cent use DOAJ database, 29.6 per cent use NPTEL and 23.7 per cent use personal blogs.

43. Various type of library services rendered by the library to the users for accessing open access resources are: article alert service (69.5 per cent), links in the library portal (61.5 per cent) and citation alert service (33.6 per cent).

44. Academic community in the higher education system uses different open access resources in the following order: open access journals, Institutional websites, open access e-book, open access databases, personal blogs and websites and open access repositories.

45. Majority of the respondents (50.8 per cent) prefer pdf format for downloading open access resources.

46. Most of the respondents (42.2 per cent) of the respondents use keyword as their search strategy for retrieving relevant information from open access resources, and DOI is used by very few.

47. There is a significant association between student user category among the academic community and search strategies adopted for accessing open access resources.

48. There is no significant association between the type of faculty among the academic community and search strategies adopted for accessing open access resources.

49. Majority of the users (67.9 per cent) in the higher education system are satisfied with open access resources.
50. The mean information literacy score of the users in the higher education system is 41.08 and standard deviation 9.1. Users among the academic community have information literacy above the average level.

51. Users of the academic community in the higher education system do differ significantly in information literacy based on gender at 0.05 level. Users of male category have more information literacy than the female category.

52. Users of academic community in the higher education system do not differ in information literacy based on their locality (F = 0.438; p > 0.05).

53. Users of the academic community in the higher education system do differ significantly in information literacy based on age (F = 5.539; p < 0.05) at 0.05 level.

54. Faculty members in the higher education system differ significantly in information literacy based on type of faculty at 0.05 level (F = 4.11; p < 0.05).

55. Users of academic community in the higher education system differ significantly in information literacy based on type of institution (t=2.49; p<0.05) at 0.05 level. Users of self financing category have more information literacy than government aided institution.

56. Users of academic community in the higher education system do differ significantly in information literacy based on category of users (F=7.74; p<0.05) at 0.05 level.

57. Users of academic community in the higher education system do differ significantly in information literacy based on familiarity of the computer (F=13; p<0.05) at 0.05 level.
58. Users of academic community in the higher education system have medium level perception towards open access resources. The mean and standard deviation are respectively 31.70 and 4.9.

59. Forty per cent of the users have low level user perception towards open access resources, 26.6 per cent have medium level and 33.9 per cent have high level user perception towards open access resources.

60. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on gender (t=0.409; p>0.05).

61. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on locality (F= 1.22; p>0.05).

62. Users of academic communities in the higher education system do differ significantly in user perception towards open access resources based on age (F= 3.07; p<0.05) at 0.05 level.

63. Users of academic communities in the higher education system do differ significantly in user perception towards open access resources based on category of student user (F= 4.107; p<0.05) at 0.05 level.

64. Based on category of faculty, the users of academic communities in the higher education system do differ significantly in user perception towards open access resources (F= 4.77; p<0.05) at 0.05 level.

65. Users of academic community in the higher education system do differ significantly in user perception towards open access resources based on type of institution (t=3.12; p<0.05) at 0.05 level.
66. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on user category (F= 2.61 ; p>0.05).

67. Users of academic communities in the higher education system do not differ in user perception towards open access resources based on familiarity of computer (F= 0.55; p>0.05).

68. Users of academic community in the higher education have favorable attitude towards open access resources (mean is 56.39 and Standard deviation is 8.57).

69. Majority of the respondents (60.6 per cent) have positive attitude towards open access resources.

70. Users of academic communities in the higher education system differ significantly on attitude towards open access resources based on gender (t = 2.44; p<0.05) at 0.05 level.

71. Users of academic communities in the higher education system do not differ significantly on attitude towards open access resources based on locality (F= 1.744; p>0.05).

72. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on age (F= 4.95; p<0.05) at 0.05 level.

73. Users of academic communities in the higher education system significantly differ on attitude towards open access resources based on category of student (F= 12.31; p<0.05) at 0.05 level.

74. Faculty members in the higher education system differ significantly on attitude towards open access resources based on type of institution (F= 5.044; p<0.05) at 0.05 level.
75. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on type of institution (t= 3.79; p<0.05) at 0.05 level.

76. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on user category (F= 4.35; p<0.05) at 0.05 level.

77. Users of academic communities in the higher education system do differ significantly on attitude towards open access resources based on familiarity of computer (F= 5.36; p<0.05) at 0.05 level.

78. The demographic variables like age, type of institution, and user category have low positive significant correlation; gender and familiarity of the computer have low negative significant correlation with respect to information literacy.

79. The demographic variables like age, type of institution and information literacy have low positive significant correlation with respect to user perception towards open access resources.

80. The demographic variables like age, type of institution and user category have low positive significant correlation; familiarity with computer and gender has very low negative significant correlation with respect to attitude towards open access resources.

81. Users of academic communities in the higher education system faces various problems while accessing open access resources such as slow internet connection (66.6 percent), frequent power failures (34.3 per cent), and minimum subject coverage (30.6 per cent) are the significant problems faced by them. Lack of information literacy (35.2 per cent) is a major individual problem while accessing open access resources.
6.2 Discussion on Findings

The present study analyses the user perceptions and usage of open access resources by the academic community in the higher education system. The findings of the present study are analysed with the findings of earlier studies conducted in this area.

The studies conducted by Anuradha, Gopakumar and Baradol (2011) & Meera (2010) on the awareness towards open access resources, revealed that Directory of Open Access journals (DOAJ) as the most familiar platform for access open access journals. This has been established in the present study also.

The present study shows that most of the users in the higher education system have well familiar with computer. This is similar to the findings of the studies conducted by Salauddin (2015), & Santhi, Radhakrishnan and Rani (2010).

The present study revealed that the users in the higher education system have information literacy at medium level. This finding are similar to the findings of the studies conducted by Ramamurthy, Siridevi and Ramu (2015), Abdullah, Kassim, Saad and Tarmuchi (2006) & Joshi (2011). But it contradicts with the findings of Khan (2015), which revealed that most of the PG students and research scholars do not know the meaning of information literacy (IL).

The present study shows that most of the users were familiar with open access journals. This findings is coincide with the findings of Janakiraman and Subramanian (2014), Sandhu and Daviet (2012), Ivwghreghweta and Onorioda (2012), Vishala (2011) Dulle (2011) & Dulle (2010) on open access journals.

Many studies have been conducted on awareness of e-resources. Some of them are the studies by Stephen and Rex (2014), Konappa (2014), Vasishta (2014), Anie (2013), Sinha and Bhattacharjee (2013), Saravanan, Gopalakrishnan and
Suganthi (2012), Ivwighreghweta and Onoriode (2012), Saikia (2011), Thanuskodi (2011), Singh and Arora (2010), Kattimani and Kamble (2010), Deng (2010), Swain and Panda (2009), Kaur and Verma (2009), Nikam (2007), Asemi (2007) & Zhang (2001) These studies revealed that majority of the respondents were aware of e-resources and its uses. This has been confirmed in the present study too. However, it contradicts with the findings of Anyaoku (2015), which revealed that majority of the students in college of Health Sciences, Nnamdi Azikiwe University, Nigeria were not aware of electronic information resources.


From the present study, it is interpreted that majority of the users in the higher education system have medium level of awareness towards open access repositories. This finding corroborate with the findings of the studies conducted by Awasthi (2015), Shukla (2015), Ivwighreghweta (2012) and Cullen (2010) on open access
institutional repository. The same finding is also reflected in the studies conducted by Manjunatha and Thandavamoorthy (2011), which revealed that majority of the respondents have positive attitude towards depositing institutional repositories and providing free access to scholarly research results of their University. But it contradicts with the findings of Obaje and Amkpa (2013), which revealed that most of the users of the University of Jos have not yet uploaded their published articles in the university institutional repository.

It is found from this study that users have positive attitude towards open access resources. This is in resonance with the findings of the studies conducted by Mammo and Ngulube (2015) on open access journals. The present study revealed that the users spent 1-2 hours per week, less than one hour per week and spent more than two hours per week for accessing open access resources. It is similar to the findings of Elavazhagan and Udayakumar (2013) on e-resources.

Studies conducted by Mohsin, Khatoon and Usman (2014), Pamnani (2013), Kumar (2013) & Maharana, Das and Pati (2013) revealed that library is the convenient place for accessing internet. In the present study too, it is found that the library is the convenient place for accessing open access resources.

The present study revealed that Google as the most preferred search engine for accessing e-resources among the users in higher education system. The same finding is reflected in the studies conducted by Baskaran (2011), Swain (2010), Meera (2010) & Swain and Panda (2009).

The present study revealed that the users are satisfied with the open access resources. The same has been corroborated by the studies conducted by Ambika and Selvakumar (2015), Mishra, Singh and Swati (2014), Anjaiah (2014), Rajput and Gautam (2014), Kumbar and Kotabagi (2014), Elavazhagan and Udayakumar
The present study revealed that the users in higher education system faces various problems while accessing open access resources such as slow internet connection, frequent power failures, lack of information literacy while accessing open access resources. This has also been found by Okoye & Ejikeme, (2010) on open access resources, Tariq and Zia (2014), Das and Maharana (2013), Sinha and Bhattacharjee (2013) & Natarajan, Suresh, Sivaraman and Sevukan (2010) in their studies on e-journals.

6.3 Suggestions and Recommendations

Based on the findings the following suggestions and recommendations are made:

1. Higher education institutions should organize awareness programs periodically on availability of open access resources.

2. Sufficient number of computer systems should be provided in the library for easy access of open e-resources.

3. The authorities should provide high speed internet connectivity to the library and increase the downloading speed.

4. Wi-Fi enabled campus must be adopted by every higher education institutions for easy access of open e-resources.

5. Academic libraries should create link to open access resources in their institutional websites and update current information regularly.

6. E-mail alert service must be adopted to make the user aware of the latest issues of open access e-journals.
7. The libraries of higher education institutions should provide copying and printing facilities for e-resources at minimum cost.

8. All higher education institutions should set up an institutional repository and efforts are to be made to deposit their resources in the same.

9. College libraries should be connected with university library network for sharing their resources.

10. The MHRD should give effectively funds to establish and develop the e-library and institution repositories of self-financing institutions.

6.4 Suggestions for further Research

The present study put forward some areas for further research.

1. The present study may be replicated by including more samples from each category and include more geographical coverage.

2. Further research may be conducted on the status of open access institutional repositories and its usage among the users in higher educational institutions in Tamilnadu.

3. A comparative study may be conducted on the usage of open access resources and payment journals among the users such as research scholars and faculty.

6.5 Conclusion

Use of open access resources in the higher educational institutions is inevitable in this open decade. Many educational resources in the forms of e-books, e-journal database and multimedia database are freely available in the web on various open access platform. It provides more benefits to the academic community in the higher education system for quality education initiatives to the younger generation and projecting their creativity in teaching, learning and generation of new knowledge and findings. The present study concludes that majority of the users in the higher
educational institutions have awareness about open access resources and their uses to fulfil their academic needs. More awareness and training programmes would definitely help to enhance their familiarity in use of open access resources effectively.

Nowadays most of the higher education institutions have moved from toll access to open access platform. The benefits of open access include lower cost, great accessibility and better prospects for long term preservation of scholarly works. The academic community in particular and the whole society in general benefits from open access. Hence, the findings of the study would of great use to the LIS fraternity, Academicians, and the Policy makers.