CHAPTER VI
Summary, Findings, Conclusion and Suggestions

6.1 Summary:

Today’s society is popularly known as information society. Every strata of the society magnetized towards it. Information becomes fourth basic need of every individual after food, cloth and shelter. Today information became a commodity and it has a value. It is also considered as power. It plays a vital role in the sector of economics politics industries. Today’s world is divided into information rich and information poor rather than financially rich and financially poor.

Research is another factor which influences the development program of any organization. Learned community of the contemporary world is taking much interest in research. That’s why now research becomes an academic activity. Researchers need information without any disturbance. Library is a place where they get such information. Generally research begins when a person experiences difficulties, i.e. a problem demanding a solution with the subject area of his discipline. Research based studies on Information needs and information seeking behaviour of users are one of the most effective tools to examine, understand the requirements of the users regarding the information. It can help librarians to evaluate the user’s information use pattern as well as their expectations from libraries.

Present survey is an attempt to understand the information needs and information seeking behaviour of research scholars of Swami Ramanand Teerth Marathwada University. Researcher observed several observations during the study. The complete scenario of library is changed due to the introduction of ICT in the library management. Library services, sources are rapidly changed during a couple of decades. Remote accessibility, virtualization, digitization have brought the paradigm shift in library services. These facilities affected user’s library visit behaviour; it changed sources that they usually use. Internet, e-resources become most preferable modes to seek information. It is also unavoidable impact of ICT that information seeking process becomes slight complicated. Users need some special assistance to find out information from
bulk data. Library staff can assist them in this regard with the arrangement of orientation program.

Research scholars are special and important users for the library. They need some special treatment there. Library timings, reading room facility, CAS, SDI are some important services where they need special treatment.

Research scholars are using several resources to fulfill the information needs; library is the popular place to acquire needed information. They usually seek job related and research concern information. Information regarding the research is prime purpose of their information need. They use formal, informal, electronic and non-book sources frequently. Social media also used for the information transaction. Research scholars face certain problems in information acquiring. Usually they overcome from such problems by the help of library staff.

6.2 Findings:

Following findings were found during the study.

1. It was found from the study that out of the total respondent research scholars 68.92% were male and 31.08% were female.

2. Next finding of the study was about the age of the research scholars. It is found that age group of 30-40 has occupied about 57.87% space in the respondents, who are undertaking such research activities. Age group of 40-50 is also in considerable numbers. 23.72% research scholars were of this age group. 20-30 age groups are also undertaking research work and their percentage is 12.06% and 06.34% scholars were above 50 years.

3. Further the study indicates that 22.9% research scholars were registered in 2011. 15.95% and 15.74% were registered in 2008 and 2009, followed by 14.72% research scholars were registered in 2007. Next was 12.67% in the year 2010 and least i.e. 02.86% found in the years before 2005.

4. An important of the study was that 39.67% research scholars are undertaking their research work under the faculty of Social Sciences. Followed by 24.33% have registered their topic under the faculty of Humanities. 10.63% registered for the Management faculty, 05.11% for Engineering & Technology, 04.7% for Education, 02.24% for Law and 0.4% each for Medical Sciences and others, respectively.
5. A finding regarding the interdisciplinary research topic shows that only 2.45% research scholars chose this type of topic, remaining scholars i.e. 97.54% focused on their own subject.

6. Another finding of the study was that 90.59% respondents possessed M. Phil. Degree. 08.38% research scholars are undertaking Minor research Project which is sanctioned and funded by UGC. 05 1.02% are undertaking some other types of research projects.

7. It was found during the study that 91.41% research scholars understand Marathi language. 84.25% respondents understand Hindi language; followed by 48.05% research scholars understand English language. 20.04% scholars understand other Indian languages than Marathi and Hindi whereas 08.38% research scholars can understand the languages of other countries.

8. Library plays a vital role in the information gathering habit. It was found during the survey that 34.96% visits library more than once in a week. 20.85% visits almost daily. 20.04% visits the library at-least once in a week. There were 13.29% research scholars who occasionally visited the library. 10.83% research scholars visited library twice in a month.

9. Further the study reveals 22.9% research scholars spent 2-3 hours in the library whenever they visit. 25.15% respondents spent 3-4 hours per visit. 22.9% told that they spent 1-2 hours in the library. 10.63% research scholars spent 4-5 hours whereas 30 respondents responded that they spent more than 5 hours in the library per visit.

10. Another finding of the study was that 100% visit the library for the purpose of book issue and return. 92.43% research scholars visit the library to locate the information from books and journals. 90.18% respondents visit the library to read and collect desired information regarding the research. 79.55% research scholars visit library for other purposes.

11. It was found from the survey that 39.67% research scholars spent up to three hours for book searching in the library. 29.24% spent 4-6 hours for same activity. On the other hand 17.38% research scholars were spending about 7-9 hours and 13.70% research scholars were spending more than 10 hours every week in searching of books respectively. 55.17% research scholars were spending up two three hours, 21.98% were spending 4-6 hours 10.56% were spending 7-9 hours and 12.28% were spending more
than 10 hours to browse the e-journals respectively. It is also found during the study that to ask the reference questions 87.85% research scholars were spending up to three hours. For the same activity 12.15% research scholars were spending 4-6 hours per week. 64.07% research scholars were spending up to three hours 23.16% 4-6 hours, 8.44% 7-9 hours and 4.33% were spending more than 10 hours on scanning of articles. There were 23.14% research scholars spending up to three hours on internet to collect information. about 31.82% scholars were spending 4-6 hours on the same activity. On the other hand 27.07% research scholars were spending 7-9 hours and 17.98% research scholars were spending more than 10 hours on it per week.

Further the study reveals 67.28 scholars were using the libraries because their libraries posses required information. 61.15% scholars use the libraries because they easily find needed information in the library. 58.69% research scholars attract towards the libraries because the library staff is friendly and they ever ready to help users. 53.78% research scholars of the said university use the libraries because they get internet facility in the library. Location of the library is one of the important factors to use the library. 51.94% scholars said that they use library because the location of the library is convenient to their work place.

Proximity to the home is one more factor that promotes scholars to use the libraries. 20.86% scholars told that they use the libraries due to this reason. Suitable library timings, availability of online resources, and thesis and dissertations etc. these are some other reasons that attracts research scholars towards the library to use. 25.15% respondents were using the libraries because of these reasons

It was noticed from the study that the basic purpose of information need of the research scholars is related to the research activities. 100% research scholars were agreed that they always need information regarding the same. 63.80% research scholars always need information to update their knowledge. 31.49% scholars often need information for same purpose. 4.70% research scholars sometimes need information to update the knowledge. In case of need of information related to the job it is found that 52.76% always needs information. About 34.97% often, 2.86% sometimes, 6.95% seldom need information related to the job. 2.45% research scholars weren’t in need of information for this reason.
25.97% research scholars always need information for entertainment. 31.70% research scholars often, 15.13% sometimes and 14.72% seldom needs information for entertainment. 12.47% research scholars are not in need of information regarding the entertainment. Some other reasons of need of information like health, tourism are indicated by the research scholars. Out of total research scholars 10.63% were always in need of information, whereas 36.20% often, 31.29% sometimes, 1.84% seldom need information regarding these purposes. 20.04% research scholars don’t need such types of information.

14. 258 51.70% research scholars gave prime preference to the textbook as a formal information source. 38.65% research scholars use encyclopaedia whereas 43.97% research scholars always prefer periodicals as a formal information source. 39.68% research scholars often use dictionaries as a formal information source. There were 33.54% research scholars who sometimes use proceedings and souvenirs as a formal information source. Majority of the research scholars i.e. 32.92% don’t use technical reports.

15. Informal information sources play an important role in the information gathering process. It was found from the study that 53.99% research scholars always take guidance from their research guide. Sometimes they get information through the conversation with librarian, subject experts, and scientists. 32.92% research scholars said that they collect information through these people. 27.40% research scholars were attending seminars, conferences or workshops to gather information. Seldom have they got success in gathering of information. Television was another device that disseminates informal information. But it was not much popular among the research scholars. It was found from the study that most of the research scholars i.e. 40.49% don’t use this source for data collection. 40.49% research scholars think radio and newspapers are not useful as a information source. They don’t use both sources as an informal information source.

16. It was interesting to find out the views of the research scholars regarding the electronic information sources. It is noticed that 42.33% research scholars always gave preference to the internet or intranet. Out of the total research scholars 26.99% gave third preference to e-journals as an electronic source. E-books were not famous among them; out of the total research scholars 33.74% research scholars sometimes use e-books. 38.65%
research scholars said that they never use online databases to collect information. 45.19% research scholars never use any other electronic sources apart from the above mentioned.

17. Micro films, microfiche and magnetic tapes are rather old technical information material. It was used in the middle of the 20th century for preservation of data. It is outdated technology. It is found from the study that 50.72% research scholars never use microfilms. 92.84% research scholars don’t use microfiche and 95.50% research scholars are away from magnetic tapes.

18. Non-book material users were also rare in numbers. It was found from the survey that 51.12% research scholars never used maps, 64.21% research scholars said that they don’t use globs and 54.60% research scholars thinks pamphlets are not useful as an information source.

19. It was found from the study that research scholars of the university variously responded to the information needs. 44.79% research scholars strictly agreed that they need information to increase the current stage of knowledge. 29.24% research scholars needed information to solve problems raised during the job. There were 31.90% research scholars who were new information finders. 63.19% research scholars strictly agreed that they need information to fulfill research requirement. 32.31% research scholars needed information to clarify obtained information.

20. Further it was found that 58.90% research scholars thinks textbooks and handbooks are partial adequate as an information source whereas 51.94% research scholars said encyclopaedias are adequate information source. Dictionaries were also popular among them. It was found from the survey that 40.29% research scholars thinks dictionaries are partially adequate to gather needed information. 289 59.10% research scholars said that journals are complete adequate resource to fulfill need of information. Proceedings of the conferences and seminars aren’t famous among the research scholars. 35.79% research scholars feel that proceedings are inadequate to acquire needed information. 54.60% research scholars said that thesis and dissertations are useful and adequate to get appropriate information. 45.60% research scholars commented that indexes and abstracts are inadequate information source. Majority of the research scholars i.e. 39.06% told that bibliographies are also inadequate. 41.92% research scholars expressed that e-literature is adequate. It is also found during the study that reports, patents and standers couldn’t
attract to the research scholars as an information source. Most of them i.e. 43.36% research scholars said that these sources are inadequate.

21. It was found from the study that usually 37.83% research scholars seek job related information, 29.86% research scholars seek information for general awareness whereas 54.40% seek information to write research articles, papers and books.

22. It was also found from the study that research scholars were using several ways to find needed information. But most preferable way was to browse library shelves. 92.23% research scholars used this way; on the other hand 58.49% research scholars were consulting library staff to access desired information.

23. It was also noticed that research scholars got advice from the librarian regarding the research project. 38.65% research scholars took advice of the librarian to arrange the references during compilation of research report. 21.06% research scholars took advice of the librarian at the time of preparation of synopsis.

24. Another important finding of the study was that 35.58% research scholars always keep abreast their knowledge through scanning journal articles. 37.63% research scholars often scan abstracting and indexing tools, 41.31% research scholars often attend conferences and seminars, 34.15% research scholars often get e-mail alerts, 41.31% research scholars often keep abreast their knowledge through library service respectively. 33.74% research scholars often emphasize on library services whereas 33.74% research scholars often maintain personal communication to keep abreast their knowledge.

25. It was found from the study that 92.43% research scholars of the said university were using periodicals as an information resource during the research, whereas 7.56% research scholars were not using such type of information resource.

26. Further it was found from the survey that 44.17% Research scholars were using information from the periodicals published in English language. 26.38% Respondents were searching information through the Marathi periodicals. 09.61% Research scholars referred periodicals in Hindi. 06.54% respondents said that they use Periodicals published in other Indian languages. 05.11% research scholars of the university refer some periodicals published in other foreign language rather than English.
27. It was noticed from the study that 80.98% research scholars told that they get required
ingformation related to the research in the periodicals that they referred. There were 19.0%respondents who didn’t get needed information from the periodicals that they scanned.

28. It was found from the study that some factors hinder research scholars when they gather
information. 21.88% research scholars always face unknown language problem whereas
26.79% research scholars often face same problem. Every subject has its own
terminology, its slight differ than general language. 14.93% research scholars always feel
difficulty during information gathering due to this problem. Sometimes about 30.06%
research scholars face problem due technical terminology used in the text. Lack of related
material is one of the important problem hinder research scholars to gather information.
22.90% research scholars said that they were facing such problem during information
gathering process.

29. It was found the survey that 56.85% research scholars said that they didn’t subscribe any
periodicals individually whereas 43.14% research scholars were subscribing periodicals
in the area of their research topic

30. Further it was found from the survey that 137 periodicals were published at national level
and74 were published at international level. 89 of the periodicals subscribed were peer
reviewed.

31. Another important finding of the study is that 84.25% research scholars expressed their
views that they use information sources which are of other subjects, for information
gathering but 15.74% research scholars delimited their search strategy with their own
subjects. 62.16% research scholars obtained required information from these resources on
the other hand 37.83% research scholars didn’t get appropriate information from such
resources.

32. It was found from the study that research scholars of the university get several services
from their library and they use it frequently. 58.695% research scholars always use book
lending service. 25.36% research scholars always use reference service whereas 29.65%
sometimes use reference service. Interlibrary loan service is another important service
used by them. 12.88% always and 198 40.49% sometimes use this service. Current
awareness service is very crucial for the research scholars. 17.29% research scholars
always take benefit of this service on the other hand 31.70% sometimes used it. Book
reservation service is important for the research scholars 34.36% research scholars always use it whereas 22.90% often use this service offered by the library. For the special users libraries offer selective dissemination of information service and research scholars use it frequently. 33.74% research scholars seldom use this service and 19.22% research scholars always use it. Due to display of new arrivals service users can be aware with updated library collection. 34.15% research scholars often use and 30.47% research scholars always use this service to collect information. Information sources published in unknown languages promotes translation service but research scholars of the said university were not using this service frequently. 52.76% research scholars never used this service. Only 6.54% research scholars used it. 42.13% research scholars were always using reprographic services. Internet and computer based services are famous among the users in contemporary era. 40.70% research scholars always use this service for information gathering. Still newspaper clipping service is not famous comparatively. 20.65% research scholars always use it but 23.31% research scholars never used this service. 32.11% research scholars were seldom taking benefit of reader’s advisory service. On the other hand 14.11% research scholars always use this service.

Further it was found from the study that 43.35% research scholars feel book lending service is 100% useful. 19.43% research scholars told that reference service is 100% useful. 8.18% research scholars said interlibrary loan service is 100% useful.

Following numbers show the research scholars who feel various library services are 100% useful.

18.81% current awareness service, 11.25% book reservation service, 12.27% selective dissemination service, 10.84% display of new arrivals, 8.59% translation service. 25.36% reprographic service, 23.31% computer service, 13.09% newspaper clipping service, and 28.43% research scholars feel that reader’s advisory service is 100% useful for them.

It was found from the survey that 54.63% research scholars got internet and online services in their library. 45.39% research scholars didn’t get such services.

Further it was noticed from the study that 64.92% research scholars didn’t feel comfortable to browse desired information through internet based information sources. 35.07% scholars said that they can’t seek needed information through these tools due to
the scarcity of time. 21.06% research scholars are baffled by the availability of huge data on the internet. 42.18% respondents feel awkward to search, download required information from it. 12.6% research scholars discussed some other issues which hinder them to seek needed information from internet i.e. financial problems, personal health, unavailability of internet service at their place etc.

36. An important finding of the study was that 20.04% research scholars specified that their library timings are 7.00am to 2.30 pm; 14.92% mentioned that the library timings are 8.00am to 3.30 pm; 28.01% responded that the timings of the library are 9.30am to 5.00 pm. Among the research scholars of the university 24.33% responded that 10.00am to 06.00pm is the timing of their library while 2.47% research scholars didn’t replied to question.

37. Further it was found that 74.43% research scholars mentioned that the library timings are suitable for them. Whereas 25.56% are not satisfied about such timings.

38. It was found from the study that 48.05% research scholars mentioned that their libraries are providing reading room facility; whereas 51.94% users didn’t get such facility from their library. Further it is found that 14.92% research scholars mentioned that the libraries are providing special arrangement for the research scholars and they usually spend 1-5 hours/day in the reading room.

39. Another important finding of the study was that 75.25% research scholars told that the collection of the library was balance. Same time 24.74% scholars didn’t happy about the collection of their library. 69.73% scholars got information as per their requirement. 30.26% didn’t get such information there. 61.55% research scholars felt that reference collection of the library was strong in number as well as in quality but on the other hand 38.44% didn’t think as like they. There were 52.35% research scholars who think that the primary information collection is adequate. But 47.64% didn’t agree about the adequacy of the primary information sources. There were some negative remarks regarding the special collection for the researchers. 44.37% research scholars told that they got special collection in the library. But the number of the research scholars i.e. 55.62% who were saying that they didn’t get any special information sources in the library.

40. It was noticed from the study that 38.66% research scholars said that catalogues are useful tool for getting needed information. Classification is another important technique
used in the library for arrangement of information sources. 37.53% research scholars were thinking that this technique is useful for them. 29.93% research scholars feel that automation of the library is useful whereas OPAC was useful for 17.52% research scholars. Information literacy modules were useful for 53.69% research scholars. 17.28% research scholars told that digital library is useful and institutional repository was useful for 34.76% research scholars.

41. It was found from the survey that 85.07% research scholars were using IT based facilities to collect, store and retrieve desired information. 14.92% said that still they are not using these facilities

42. It was found from the study that IT based facilities are complementary to the research scholars for information gathering.

Following figures and IT based facilities show their usefulness (very useful) according to the research scholars.

Computer and its facilities 39.26%, tele-communication 20.86%, reprographic facility 44.58%, inter/intranet 28.43%, multimedia 33.13% and video conferencing of video text 7.36%.

43. It was found from the study that 18.2% research scholars use print copies of periodical articles and reference material. 04.29% said that they prefer electronic copies of such material. It is also found that 77.5% research scholars procure information from both the types’ i.e. print and electronic resources.

44. It was found from the study that 81.39% research scholars told that their research policy is influenced due to the introduction of information technology and related technologies in the field of information dissemination. 18.6% said that they still search information in traditional way. The information sources, search strategies are similar as they used it five years back.

45. It was found from the study that electronic sources, devices and facilities made changes in information gathering habits of the research scholars. Following figures show the number of research scholar who feel easier and the areas in which they feel easiness.

74.44% photocopying 49.28% retrieval for information, 54.81% communication, 41.10% synthesizing the desired information. 47.85% verifying the citations and 79.55% research scholars said that they feel easier in availability of current information.
46. It was found from the study that 14.11% research scholars use keywords to find out the needed information. 23.31% said that they search desired information according to the author of the source. 17.79% research scholars search required information with the help of title of the document. 41.51% respondents go through the subject of the source document. 03.27% search with other strategy, like; series, publication, physical form of the document etc.

47. Further it was found that research scholars get or take training/ orientation to operate electronic tools out of the total respondents of the study that 59.5% research scholars received such training. Most of them i.e. 217 told that the training was quite useful for them. Out of 291 (who took formal training) 74 research scholars felt that such training was not useful.

48. It was found from the study that research scholars expressed their views on utility of several objects in information gathering. Following figures show the utility of several objects.

56.03% research scholars said that computer services are very useful. 31.08% said telecommunication, 50.51% said photocopying, 9% said micro technology, 52.15% said internet, 37.22% told online databases/ e-archives/ journals, 25.66% said digitization and 21.27% research scholars said that video conferencing and video text are very useful for information gathering.

49. Further it was found that research scholars feel changes in library visit due to introduction of electronics in information dissemination. 85.48% strongly agreed that frequency of their library visit is affected by the electronic information dissemination; still 14.51% research scholars visit the libraries as per their previous schedule. They expressed affect in percentage. about 25.15% respondents is decreased by twenty percent. 28.62% said that their visits to the library are reduced the fifty percent. 37.21% research scholars expressed that their library visits are decreased seventy five percent whereas 08.99% research scholars said that their library visits are affected by hundred percent.

50. An interesting finding of the study was that 86.5% research scholars were using the internet to seek needed information whereas 13.49% said that they didn’t use internet.

51. Further it was found that research scholars were browsing internet at different place 42.74% research scholars browse desired information through internet in the library.
Internet café is another popular place to seek information on the internet. Some of the research scholars do have internet connection at their home. Therefore out of the total responded research scholars 08.58% said that they seek needed information at their home. 21.47% research scholars browse internet to collect required information on their cell phones.

52. It was found from the study that Out of the 489 research scholars there were 84.25% research scholars who agreed that they are using social media as a mean of information transaction. whereas 15.74% said that they are away from such media.

53. Further it was found that research scholars use various social media applications following figures shows the utility of applications.

28.83% research scholars said that Whatsapp is very useful application for information transaction. 17.18% said Line, 38.24% told Facebook, 11.04% said Chaton, 22.29% told Skype, 26.99% said twitter, 11.66% commented Wechat is very useful for media transaction. 52.33% research scholars said that some other applications like Telegram, Zorpi, Viber are useful for information transaction.

54. It is found that 73.82% research scholars told that they didn’t face such difficulties at the time of information gathering through online sources. Whereas 26.17% came across some difficulties during information browsing through online sources.

55. Further it was found that 28.01% research scholars feel difficulty while browsing online. 33.74% were of the opinion that it takes a lot of time to sort a particular piece of information from huge data, while 28.83% research scholars faced difficulties to handle the IT based tools and devices. There were 09.4% research scholars who facing other types of difficulties like unavailability of internet link, financial problems, unavailability of the online sources in the libraries etc.

56. It was found from the study that research scholars of the university use different types of resources time to time. Following figures indicate the use of resources.

45.81% research scholars always use reference collection; followed 29.04% research scholars always use journals to fulfill their information needs. 15.54% said they always use non-book material and 34.56% research scholars were using e-collection to acquire needed information.
57. It was also noticed from the survey that research scholars preferably use primary sources for information collection. 18.20% research scholars always use manuscripts, 28.22% always use thesis and dissertations, 43.15% research articles, 13.70% patents and standards, 19.63% technical reports and 21.47% research scholars always use audio visual material for information collection.

58. Further it was found that research scholars consider several factors at the time of selection of any documents. 29.04% research scholars always consider language at the time of document selection for information gathering. 25.36% authorship, 22.09% publication, 48.26% subject, 26.58% suggestions and 11.88% research scholars stated some other factors i.e. cited in research articles, easy availability etc. consider at the time of document selection.

59. It was found that 41.71% research scholars said that journal articles are useful for effective search of needed information. 25.76% expressed that they preferred statistical data. 16.56% preferred bibliographic data for effective search of information. Library catalogue is called ‘a mirror of the library’. It is a very useful tool to search needed information from huge stack of the library. 72.8% said that they use this tool for effective search. 35.37% said that they use author websites for effective search of information, 32.5% research scholars preferred Reports & Publications of Govt. & Other Organizations as a tool for effective data collection.

60. Other important finding of the study was that 31.49% research mentioned that they don’t have such skills to access needed information. Research scholars visit various places to access needed information, they need to sit there for long time and it’s a tiresome task. Personal health problems don’t allow to do such things, it may interrupt the accession of information. 38.03% research scholars faced this problem sometimes. Today information became a commodity and every user is not in position to pay such cost to acquire the desired information. Out of responded research scholars 72.59% mentioned that, they have money problem to access information, while 25.97% had some other problems. They commented that latest editions are not available, online material is not available in sufficient numbers; there are no special services for research scholars provided in the library etc.
61. It was found from the survey that research scholars gave assorting comments regarding the automation of library. 83.64% research scholars said that they didn’t face any problem in searching information due to library automation. 16.35% said that they faced problem due to library automation. Further it is noticed that research scholars stated various problems they faced. Most of the respondents felt uneasy to deal with new technology. OPAC is the area where they baffled.

62. It was found from the study that research scholars need help of library staff when they seek specific document from the library stack. It is also found from the survey that generally they get such help from the library staff frequently. 93.45% research scholars said that they take/ get such a help from the library staff whereas 6.54% didn’t get/ take any help from them.

63. Further it was found from the study 84.04% research scholars get help from library staff at the time of search of document they needed. 29.24% said that they get help from the library staff, when they scanned the articles or references. Arrangement of references and indexes is different from the common books; it’s a bit complex to understand. Therefore a common user needs some assistance to use it in proper manner. 20.85% said that they get help from the library staff when they use such information material. 70.96% research scholars said that they took help to understand the arrangement of resources on the shelves. 61.14% said that they need the help of the library staff in some other area. mostly they took help to browse the information from online resources. They learnt how to search resource on OPAC.

64. It was found from the study that 64.41% research scholars told that they suggested several suggestions from time to time. They agreed that they had some grievances and most of them put forth it before the library administration. 35.58% said that they neither suggested any change nor had any grievance. Further it is pointed out that amongst the responded research scholars 22.9% said that library administration made appropriate changes within the library management, services and obtained suggested information sources.

65. It is found from the study that due to some unhealthy reasons research scholars of the said university didn’t get needed information within time. 30.47% research scholars said that they face time problem. Due to heavy workload 39.26% research scholars didn’t gate needed
Further it was found that 33.33% research scholars said that overload information affect their information seeking behaviour. 20.85% said that changing ICT environment is affecting their information seeking behaviour. 30.47% research scholars of the university mentioned that their information seeking behaviour is affected by the availability of different sources in the library. 15.33% said that their information seeking process is affected due to non cooperative library staff.

An important finding of the study was that research scholars mentioned their satisfaction regarding the library collection. 08.38% research scholars said that their satisfaction level is below 20%. 22.49% said that they are satisfied with the present library collection between 20-50%. There are 62.78% research scholars who told that their satisfaction level is between 50-80%. And 06.33% said that their satisfaction level is above 80%.

Further it was noticed from the study that 25.97% research scholars feel deficiency in the latest editions in library collection. 56.85% respondents felt inefficiency in the copies of reading material in the library collection 54.39% said that the periodicals subscribed in the libraries are not reputed. 57.05% research scholars felt inefficiency in back volumes of the previous issues of the research journals.

It was also found from the survey that 28.02% research scholars said library collection is excellent. 34.36% said that library times are excellent. 30.27% said seating arrangement, 45.19% said Supporting Services, 36.61% said helping nature of staff and 36.61% research scholars said that Introduction of IT in The Information Preservation, Retrieval etc. is excellent.

Further it was found from the study that research scholars avoid particular documents. 20.85% told that they avoid some information sources intentionally published, whereas 79.14% said that didn’t try to avoid any information source. It is necessary to understand the reasons for which they try to avoid particular information source.

6.3 Conclusions:

It could be concluded from the study that 769 research student were enrolled for the Ph.D. in Swami Ramanand Teerth Marathwada University on or before 31st march 2011. It was also concluded that 489 scholars responded to the study and response rate was 63.58%.
6.3.1 General information:

Research scholars of the university was asked general information in the first portion of
the questionnaire and it was concluded from the information indicated by them that number of
males looks more than female. Noticeable difference occurred between male and female research
scholars. Most of the research scholars involved in research activities was in between 30-40 age
groups. They occupied about 57.87% of the total respondents.

Researcher of the study also concluded that scholars register before 2005 were less in
numbers. Majority of the research scholars i.e. 112 were registered in 2011 for Ph.D. degree.
Research scholars of the university registered their research topic under several faculties but
numbers of the research scholars registered under the faculty of social sciences were at first
position. There were 194 research scholars registered under this faculty on the other hand only 02
research scholars were register their topics under the faculty of medical sciences. It is concluded
that the research scholars of the university weren’t interested to undertake interdisciplinary
research. Very few i.e. 12 research scholars were undertaking their research interdisciplinary.
Most of the research scholars were focusing on their own subject. It is also concluded that
Marathi is the most popular and known language among the research scholars. rare scholars know
other non Indian languages than English.

Finally in the area of general information it is concluded that above 90% research
scholars possessed M. Phil. Degree. No one was engaged in major research project.

6.3.2 Library visit:

Library is the key factor in information gathering habits of the research scholar. Every
research scholars visit to the libraries from time to time. Researcher of the study enquired research
scholars (respondents) about their library visits and he arrived at certain conclusions. The
conclusions are likewise; majority of the research scholars visit library twice a week. The strength
of the daily visitors to the library is also very good. Research scholars who visit library twice in a
month were least in numbers.

After the analysis of the collected data it was concluded that number of the research
scholars who spent 2-3 hours per visit was highest. Whereas only 30 research scholars were
spent more than 5 hours per visit in the library. Research scholars visit library with different
purposes. Certainly there they gather information and most common purpose to visit library to gather information regarding the research. Even though users visit library with different intentions but most popular and common purpose to visit library was to borrow books to fulfill information query. Libraries offered various services and facilities to the users frequently. Users also use such facilities from time to time. Now a day libraries maintain variety of information collection, but still book occupied its major part. It is also known fact that books are very popular among the users. It is concluded from the interpreted data that research scholars spent considerable time on book selection in the library. There are several reasons attract users towards the library. If users can find needed document or information defiantly they visit that library preferably.

6.3.3 Information needs:

Every individual needs several types of information. People involved in academic activities need information likewise conceptual or detail information, information regarding current issues. But person engaged in research activity mostly needs all types of information on a particular topic. Several purposes of information needs influence the library visit of the users. Research scholars have some special purposes of information needs and their needs are slight different than common users. Common users usually need information for daily business as well as for entrainment but research scholars need information regarding their research work. They ever in search of such documents that can fulfill their information query. Library is a place where they get appropriate information. There are several types of information sources available in the library. Information channels have specific importance in information communication. There are hundreds of channels available and they communicate information effectively. Individuals engaged in research activities usually use such channels for information gathering. Information sources are broadly divided as; formal, informal, non-book, micro and e- information sources respectively. It is concluded from the study that research scholars use most of the information sources. The use of micro technology in all its aspects is reduced like anything.

User’s responses regarding the information needs are generally influenced by for which purpose they need information. Research requirements are prior for the research scholars. They also try to increase the current stage of information. At the time of job related duties one need information. Person in need of such information preferably respond these needs.

Research articles, thesis and dissertations are prime source of primary information. With the introduction of IT in information communication, users get a great treasure of information. E-
books, e-journals and online sources are very popular among the users. 24*7 availability and remote accessibility are increasing its popularity as well as usage. Research students need to keep huge data for ready reference and sources in ‘e’ form are complimentary for them. Patents and standards also contain primary information. But use of these sources is slight short. World is speedily rushing towards the paperless society but users still depends upon both print and non print material equally.

6.3.4 Information seeking behaviour:

Information seeking is an endless job for every human being. Since ancient time he needs information at every stage of life, but his information seeking process was scattered one. In modern age information seeking turned out to be a systematic task. Today people seek information for several purposes and they use various modes to fulfill it. Organized efforts make it easy and ratio of success is better than previous. Generally common users seek information regarding their daily needs, related to their job, to update their knowledge etc.

Library is a place where usually users go and find desired information. Variety of information sources is acquired by the library and is systematically arranged on the shelves as well as preserved by different ways. Online sources, journals, periodicals, databases are easily available for the users. Libraries use some specific tools and techniques to arrange these sources. Such things assist users to find out particular piece of information. Library staff acts as a bridge between information sources and the users. These modes overall makes users to find out and select information easily. It reduces the efforts of users’, saves time and makes research process rather simple.

As discussed earlier, librarian and the staff assists users to locate needed document from the stack. But librarians’ job is not restricted to assisting a user only; but they could be of great help to the users in innumerable ways. Such help dilutes the hardships of research scholars and make their work easy and effective. Arrangement of references, finding the bibliographic information of research on particular discipline, rules of report writing is some of the areas where research scholars can take the help of a librarian.

In the contemporary world research has its own importance. Day by day involvement of society in academic activities is growing up. Percentage of research activities is rocketing. These
circumstances obligate to keep abreast the current development in the field of research. There are several ways like scanning journal articles, participating in conferences and through library services research scholars can abreast themselves with current developments in the field of research.

Periodicals have prime importance in research. It is a primary information source. Research journals publish articles and information concern to research in progress. It is very important information for the researchers. Generally to utilize information from the periodicals researchers either subscribe periodicals individually or acquire through library services. Research scholars of the university adopted both ways to use information from the periodicals. Periodicals published either at national or international level should be prefer, because authenticity and quality of information published in these periodicals is rather good. Peer reviewed journals should be added in the preferred list.

Today’s knowledge world is highly influenced by the fusion and fission. It is very hard to justify covering all types of information from pure subjects. Research scholars should seek information from the sources of other subjects.

6.3.5 Library tools techniques and services:

Initial function of a library is to provide effective services to its users. Ranganthan’s five laws strongly prescribe these things. But on the other hand it is very essential that users should be familiar with the services and facilities offered for them. It is found from the study that research scholars are aware with the services offered by the libraries. They also know the tools and techniques used in the library. It is clearly indicates that book lending service, reference service, reprographic service and internet service is famous among the research scholars. They are aware with classification and arrangement of catalogues. It is also indicates in the study that interlibrary loan, SDI and CAS are not popular among the research scholars, libraries should focus on this area.

Some crucial problems hinder research scholars to acquire needed information. It is clearly indicates in the study that newly emerged technologies baffle research scholars in using information sources effectively. Due to overload information it is very hard to scan, filter needed document and select particular piece of information.
Library timings is another sensitive issue, which could affect the information seeking process. Most of the libraries adopted standard official timings. And the research scholars are happy with their library timings. Handsome library collection is the opulence of any library. Users satisfaction ratio is completely relates to two things i.e. library services and collection. Most of the respondents commented that the collection is balance. And they get needed information there. They also commented that primary sources are available in the library good in numbers.

Research scholars use IT based facilities for information seeking frequently. Reprographic facility, computer related facilities are preferably used by them. Internet and intranet facilities users are considerable in numbers. But video technology is not popular among them. With the introduction of IT publication sector is exercising tremendous change. Publication industry moved from print to non-print culture. Today most of the reputed and peer reviewed periodicals, research journals are published on internet. It’s online and offline versions are also available. Information seekers are also undergoing such experience. Most of the research scholars of the university are using both publications simultaneously. Research scholars feel deep effect of electronics on their information seeking activities. Today their information seeking behaviour totally changed due to electronic dissemination of information. Research scholars said that due to introduction of IT availability of current information is improved. Photocopying and retrieval of information is become easy.

To find out needed information from huge data is not easy job. It needs some specific skills, as well as some clues to sort out information. These clues work like a key to open information treasure. For ex. Authors keywords, subject etc. it is concluded from the study subject and name of the author are most popular clues among the respondents of the study.

6.3.6 Impact of IT on information communication:

Information accessing from the library, online sources e-resources and on internet needs particular training. Without such training no one can’t seek, use information properly. 291 research scholars get formal training to sort out needed information and most of them said that the training was useful. Photocopying, internet and computers are the preferred objects by the research scholars in information gathering process. Most of the research scholars feel impact of IT on their library visit. Average impact in percentage is recorded by the research scholars is 50-
It means IT plays a tremendous role in information communication. Research scholars usually prefer Library and internet café for use of internet.

Today’s generation is deeply blended with social media. Earlier it seems that it was used for fun. But today it came into existence as a mode of information communication. Research scholars can use such media for information gathering too. It is occurred from the study that most of the respondents use social media and they are using it as a mode of information gathering. Facebook and Whatsapp are the popular apps among the respondents of the study. Some of the research scholars face difficulties while seeking information through online sources. According to the research scholars sorting/ scanning of particular piece of information from huge data is time lagging. They face difficulty while handling of IT based devices.

6.3.7 Preferred resources for information collection:

Different types of collection have collected by the library. Primary secondary as well as tertiary resources, e-resources, non-book material are to be included in the library collection. Users use it as per their need. It is observed from the study that reference collection and e-collection is mostly preferred collection by the research scholars. In primary resources they prefer research articles, thesis and dissertations mostly. There are several factors they keep in mind at the time of selection of any document. Subject, authorship and language are the prime factors that they keep in mind.

To complete a research project research scholars search various types of information resources, handle several devices, tools, techniques and facilities. These resources and facilities have their own features. Some of them are rather different than the print and electronic sources. Such sources also play a significant role in information communication. Most of the respondents of the study are using catalogues, author’s websites, reports of the governmental organisation etc.

6.3.8 Environments that affect the information seeking behaviour:

It is observed from the study that research scholars face several difficulties while information seeking. Lack of time, personal health problems, money problem and lack of knowledge to access needed information from several sources are the major ones. Today information is generating with supersonic speed. ICT communicate generated information rapidly. One side it becomes a golden opportunity for its users but on the other hand such overload information becomes a problem for the seekers. Now information seekers need some special skills to scan/ filter needed document/information and use properly. Such overloaded
information, growth in types of information sources acquired in the library is some important areas which creates unhealthy atmosphere in information seeking habits of the research scholars.

6.3.9 Satisfaction level of the users regarding the library collection:

The success of any library is depends upon the ratio of satisfied users. Satisfaction of the user is depends upon in which percentage they access information from the library, which useful services library offers to its users, how many information sources are latest one and supportive nature of library staff etc. it could be conclude from the study that most of the research scholars are satisfied with their library. 307 research scholars told that they are satisfied up to 50-80% about their library. Even though, research scholars expressed their views regarding the inefficiency of library collection. Most of the research scholars expect improvement in the collection of back volumes of periodicals. Reputed and peer reviewed journals should be subscribe. Number of copies of books and latest editions should be added in the collection.

Most of the research scholars are satisfied with library collection. About 90% research scholars feel library timings are either good or excellent. According to the research scholars seating arrangement in the reading room is satisfactory, supporting services are excellent, helping nature of the library staff and introduction of ICT is excellent.

Further it is observed from the study that few of the research scholars internationally avoid particular information source. They stated various reasons for avoiding such sources. Sources in unknown language and online material are they avoiding at the time of information seeking.

6.4 Suggestions:

At the end of study some suitable suggestions

i. Libraries should develop collection according to the needs of every user. Research scholars are important as well as special users of the library. They need some specific sources for their research work. Libraries should focus on their demand at the time of accessing information sources in the library.

ii. CAS and SDI services are very crucial for the research scholars; inter-library loan service is also complimentary for the research scholars. Library management should give special attention on these services while offering services to its users.
iii. Without user education and special training users are unable to take optimum use of library services and library collection. Users need some special skills to acquire needed information from IT based information sources. It is very essential to arrange some special training programs for the users in the period of ICT.

iv. Library staff also needs special training for marketing of library services. Due to such training they can provide effective services to its users and bridge the gap between users and the resources.

v. Use of non book material should be increase. Although the micro technology is outdated but it contains some old and rare information which may very useful and valuable for the users. Library has to promote users, particularly research scholars to use such sources frequently.

vi. This age is highly influenced by the IT. Library collection is experiencing revolutionary change since last couple of decades. In 21st century it has captured supersonic speed. Libraries should make proper changes in their infrastructure as well as in the services. Libraries should support and promote users to use IT based information sources.

vii. Off campus research centers of the university should develop a database of the information sources and its location where from research scholars can acquire. Off campus research centers are allotted to the colleges affiliated to the university. These colleges should develop a special collection for the research scholars in the library. Research center should start a special counter for the research scholars to advice regarding information sources and services. Special seating arrangement should make available to the research scholars.

viii. Libraries have to prepare user oriented time schedule. Reading room timings should extent for the research scholars. Libraries should subscribe consortiums on several subjects. For ex. N-List. it is observed from the study that research scholars are facing financial problems to acquire needed information from online sources. Libraries should attempt to offer free internet service to the users.

ix. Libraries can use social media for SDI service with creating a facebook, whatsapp group. With the help of such groups list of new arrivals can upload to the users. Libraries can start separate page on facebook for marketing of their services.
Through web OPAC library can reach in the study room of the research scholars. Use of digital technology may reduce frequency of library visit of the research scholars.

x. Libraries should start reading room facility in several parts of the city where the library is established. Mobile library facility should provide to female research scholars living in the country side.

xi. Libraries should concentrate on bindings of back volumes of research journals which are very useful for the research scholars. Numbers of copies, latest editions of the books are some important areas where libraries should work. Quota of the books issued to the research scholars should extend. It is good to offer open access for every user but due to its drawbacks it is not offered in the libraries. but it's better to relax research scholars from this prohibition.

xii. Libraries should develop research repositories, subject gateways etc. for the research scholars. They can start a helpline for the research scholars.

6.5 Summary of the null hypotheses test:

The study was carried out with following research questions and null hypotheses:

<table>
<thead>
<tr>
<th>Table no.</th>
<th>Research questions/null hypothesis</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Frequency and time spent in the library</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>There is no significant difference among research scholars regarding to the time spent every week in the library</td>
<td>Rejected</td>
</tr>
<tr>
<td>II</td>
<td>Purpose of seeking information</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>There is no significant difference among research scholars regarding to the purpose of information needs.</td>
<td>Rejected</td>
</tr>
<tr>
<td>III</td>
<td>Types of information sources</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>There is no significant difference among research scholars with different types of formal information sources.</td>
<td>Rejected</td>
</tr>
<tr>
<td>2</td>
<td>There is no significant difference among research scholars with different types of informal information sources.</td>
<td>Rejected</td>
</tr>
<tr>
<td>3</td>
<td>There is no significant difference among research scholars with different types of electronic information sources.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars with different types of technical material information sources.</td>
<td>Rejected</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars with different types of Non Book material information sources.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

### IV Information seeking behaviour

<table>
<thead>
<tr>
<th></th>
<th>There is no significant difference among research scholars with the responses regarding information needs.</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is no significant difference among research scholars with the extent of information needs met by the adequacy collection of the library.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars with the reasons for seeking information related to Job, general awareness of knowledge and writing research papers.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars by keeping abreast of current developments in their fields.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars about the factors hinder in information gathering process.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars about the tools and techniques used for information gathering.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

### V Channels of information used by the research scholars

<table>
<thead>
<tr>
<th></th>
<th>There is no significant difference among research scholars regarding to the use of IT based facilities to collect, store and retrieve the desired information.</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is no significant difference among research scholars about the electronic sources make easier or difficult to gather and use information.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars about the electronic sources utility in information gathering habits.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars about the use of Social media in Information transformation.</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td>There is no significant difference among research scholars regarding to the preference of information resources.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
6 There is no significant difference among research scholars regarding to the preference of primary information sources. Rejected

7 There is no significant difference among research scholars regarding to the factors considered at the time of selection of document for information gathering. Rejected

8 There is no significant difference among research scholars regarding to the reasons of delay for getting required information. Rejected

VI Satisfaction level of research scholars

1 There is no significant difference among research scholars about satisfaction level regarding to the various factors of library. Rejected

6.6 Areas for further research:

Following areas are suitable for further research in the field of information needs and information seeking behaviour.

1. Information needs and information seeking behaviour of faculty members of the university and affiliated colleges.

2. Impact of ICT on information seeking behaviour of research scholars and faculty members of university and its affiliated colleges. A study.

3. Correlation between information literacy and information seeking behaviour of research scholars of Swami Ramanand Teerth Marathwada University: A study.