## Chapter 7: Findings, Suggestions and Conclusion

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7.1 Introduction:

While conducting this study it was observed that enormous growth in LIS education and research has been taken place since past ten years. Initially though the efforts were slow but since applications of ICT and management techniques in LIS the growth is more in research activity and also has diversified areas for research. The importance of research in LIS is visualized since 1950s and initially research work carried out in this area was having slow pace but since 2000 onwards steady rise in research activity is visualized. At present research element is introduced at M Phil and PhD level programs in most of the universities. The main purpose of initiation of research activity is mainly to solve the problems in librarianship. In the present study researcher has analysed and reviewed status of LIS research at national level and in particular universities from the western part of India. Based on the literary evidences and factual data analysis, researcher observed the trends and progress in LIS research. The findings from the analytical study are listed as well few suggestions are recorded to improve the LIS research.

7.2 Findings:

The analytical study of citations from PhD (LIS) theses revealed many findings. These findings have thrown light on the variety of information sources on which the research scholars depends on heavily. The prominent findings sought from the study are presented below covering national, western Indian universities and in general.

7.2.1 National Level:

1. The credit for introduction of research degree program in LIS in India goes to Dr. S R Ranganathan who started research program at Delhi University in 1958. The first doctoral degree in library science honoured to D B Krishnrao for his research work “Facet analysis and depth classification of agriculture” under the guidance of Dr. Ranganathan.

2. Later many universities initiated research program including DRTC, NISCAIR, UGC, NASSDOC and Library Associations in India like ILA, IASLIC, IATLIS etc and they have also supported for research activity and assisted in conducting and publishing research outcome. Further University Grants Commission (UGC) has promoted LIS research by awarding different kinds of fellowships. ICSSR and DESIDOC have also taken active part in
LIS research program and supported doctoral research by awarding scholarships to researchers.

3. From 1957 to 2008 about 802 doctoral degrees were awarded by the various Indian universities. From 1957 to 1990 on an average only 8 degrees were awarded per annum. Since 1991 the steady rise is reported in research activity and 1991-2008 on an average 36 doctoral degrees were awarded. This magnitude of change is visualized due to merging of new technology and management techniques in LIS. However from 2003 onwards more research is reported and during the period 2003-08 in five years on an average 43 degrees awarded per annum by the Indian universities.

4. The analysis of degrees awarded by the different universities in India in LIS, among them top 10 states in India, Karnataka stands first. The rank wise status of research in different states awarding degrees by the end of 2008 were Karnataka (169), AP (96), MP (80), Maharashtra (68), West Bengal (56), Panjab (45), Orissa (43), UP (42), Rajasthan (41), Tamil Nadu (31) and other state’s contribution is 141 degrees. Karnataka and Maharashtra state are leading in research activity.

5. It is observed that research conducted in Indian universities is more biased towards bibliometrics and citation analysis, library management, university library, information seeking behaviour, library services, information technology, public library, college library, special library and Library science education etc. Thus more than 50% research (493) degrees in Indian universities were awarded in these research areas.

6. Analysing the contribution of research guide at national level Dr. C R Karisiddappa from Dharwad University stands first and under his guidance about 33 research students received the degrees by 2008. Dr. PSG Kumar, Dr. Sangam, Dr. Ramesh Babu, Dr. R M Kumbhar, Dr. V G Talwar are the major contributors as guiding professors to researchers at national level.

7. The comparison of research at global level also highlighted the same trend as reflected in Indian universities except research based on current trends are reflected earlier than Indian scenario.

7.2.2 Western Indian Universities Level:-
The researcher has collected the data from research contributions of research work submitted to universities located in part of western India i.e. Maharashtra, Gujrat and Goa. The citations data was collected from the research theses by visiting universities and refereeing the theses which were made available. The analysis of data helped in findings major observation in LIS research conducted in this area and the major findings traced out are reported below.

1. Western zone of India has three states (Maharashtra, Goa and Gujrat) and 21 non-agriculture universities. But the research activity is carried out only in 14 universities.

2. Out of the three states Goa state has only one university but as on today only LIS education is prominent and research activity is not yet started hence research output is not available from this university. Now in all 21 universities (Maharashtra 12 and Gujrat 9) where research activity in LIS is contributed i.e. in progress and in nearer future degrees might be awarded.

3. From these 21 universities during the period 1980 to 2010, 152 doctoral degrees were awarded. This research magnitude is from 14 universities and in remaining 7 universities ongoing research is reflected and not yet awarded doctoral degrees till 2010 (North Maharashtra University Jalgaon, Tilak Maharashtra Vidyapeeth Pune, Bharati Vidyapeeth Pune, Sourashtra university, Rajkot, south Gujrat university Surat, Gujrat University, Ahmadabad). However Bharati vidyapeeth Pune has recently awarded around 3 degrees to researchers.

4. The status of research in western Indian universities indicated, university of Pune ranks first by awarding 57 doctoral degrees at the end of 2010. Next is Nagpur university (32), BAMU Aurangabad (15), Amravati university (11) etc.

5. Maharashtra state is at leading position awarding 136 degrees. Whereas Gujrat state has only 16 doctoral degrees awarded so far. At national level Maharashtra ranks 4th but in western Indian universities Maharashtra leading at top.

6. The research element in western part initiated late 80’s (at national level 1957) and first degree awarded in 1986. The first degree awarded in Maharashtra is to Dr. M B Konnur in 1986 from University of Pune. Where as in Gujrat first degree was awarded to Dr Bhawsar Vaishaliben in 2000. There is a gap of nearly 30 years as compared to national level in Maharashtra and nearly 44 years in Gujrat. Thus initial growth was slow by awarding only 1 degree per annum but since 1997-2001 around 5 degrees awarded per annum but real growth of research is reported since 2002 and
during the period 2001-10, 119 theses were accepted for awarding degrees. The Gujrat state has slow but steady progress in research activity.

7. The research conducted in these universities revealed that academic library, information services, special library, information seeking behavior, citation analysis, public library, ICT applications, digital library are the major subject areas covered by research from these states. The research topics selected also has similarity at national level. More than 50% research work was related to academic library, information service, special library, information seeking behavior, and citation analysis. However the upcoming areas like ICT, library network, library science education and curriculum are considered in this area.

8. Ranking of guides in this zone revealed that Dr. PSG Kumar stand first (31) followed by Dr. Rajyalakshmi D (11), Dr. N J Deshpande (10), Dr. S K Patil (9) these are the major research guide in this area but Dr. Kumar rank first in Maharashtra and also has second rank at national level. He is the most imminent personality as national level as well as state level guidance. It is also reflected that Dr. Konnur, Dr. Ganpule, Dr. Mahajan, Dr. Riswadkar, Dr. Vaishnav are also popular guides. Dr Rawal, Dr Charan, Dr Vyas, are the prominent guides from the Gujrat states.

9. Researcher has also reviewed ongoing research topics and noticed that academic library, information services, special library, information seeking behavior, citation analysis studies, public library are again at leading position in research activity. But ICT, library network, digital library, information service, IPR, web technology, HRD, knowledge management, staffing pattern are new areas reported in the ongoing research in both states.

10. From the analysis of guides it is reflected that new research guides are also included in the panel to manage increased load of research enrolment in the area of LIS, and found about 29 research guides are guiding to 136 research students in LIS in these states. Among the first 10 prominent guides which are newly registered are Dr. Dakhole P S, Dr. Kale K B, Dr. Deshpande R M, Dr. Hirwade M A, Dr. Dahibhate N B, Dr. Namita Khot etc. In Gujrat Dr Shyama Rajaram, Dr Charan, Dr Vyas, Dr Thaker are representing as prominent guides.

11. Ongoing research activity is reported highest at Nagpur university (72) followed by Tilak Maharashtra Vidyapeeth (25), University of Pune (17). It is also observed that new universities are also leading at ongoing research activity.
7.2.3 Findings Form Data Analysis:-

1) It is found that many theses are presented in local language and the researchers experience language barrier in the use of the document, e.g. in Gujrat universities theses submitted are in Gujarati language and in Maharashtra in Marathi language. These might be the barriers for other state researchers.

2) It is observed that there are many information sources for PhD thesis data like AIU Handbook, University News Letters, INFLIBNET database, Vidyanidhi, Shodhganga etc. But the data is not complete in any of the source to get the complete data or information regarding the research activity. There is a need to having unique source of compilation. It is also possible to link theses databases at international level. This helps in identifying total number of degrees, year, name of guide, topics of research studies and such data helps in avoiding duplication in research as well as authentication of data.

3) From the data analysis it is observed that, in the research studies, researchers use different scholarly information resources to justify the results and hence they refer and cite the used references in their study. Researchers in LIS have used variety of forms and formats of publications that were being cited by the researchers in their study. The most frequently cited form was journals followed by books. Librarians need to focus on these two types of bibliographic forms while subscribing information that fulfills the needs of the LIS researchers for their research. The survey highlighted the use of literature in which journal usage is more than other resources. This is the normal trend observed among researchers everywhere in all subjects as journals are the primary source of information in which qualitative information is reported. The other prominent contribution is books, websites, proceedings and theses. It is revealed from this study that journals, books and electronics media are the most used literature forms while preparation of dissertations by PhD research scholars in LIS. These three forms of information resources cover almost 89% of the total citations. Nearly half of the citations are of journal articles (42.14%), followed by books (41.75%) and electronic media (5.06%). Conferences and theses / dissertations follow closely to 6.60%. The other categories, includes grey literature covering reports, lectures seminars, brochures, annual reports patrikas, technical reports, government publications, newspapers, reference sources like encyclopedia, dictionaries, etc and counts for 4.40% of the citations.
4) Earlier only printed information sources were available for consultation but now due to use of ICT and e-forms of documents researchers are using e-resources available in the form of e-books, e-journals and internet based information resources. The use of e-resources is increasing slowly in the research workers, as availability and use of e-resources is economical and fast to distribute and link. The trend in citing e-documents is also reflected in research studies. In the study about 6% uses of e-resources is reflected. In natural sciences more use of e-resources is reflected as more data is available in e-from including databases, whereas in social sciences now the growth of e-resources is increasing and researchers are making use of it. However print resource have dominance in its use due availability.

5) It is observed that LIS researchers are using LIS resources while conducting research study but they are also consulting to the non-LIS journal resources. It is observed that researchers while conducting studies used 193 LIS journals where as researcher have also used non LIS professional journals devoted to different branches of knowledge, due to multi-disciplinary concepts, librarians and information scientists are publishing their views even in non LIS journals as articles covers specific subject relation studies.

6) Researchers in LIS used 193 journals in conducting research studies and ASLIB proceedings, Library Trends etc are being used prominently in the studies. Use of abstracting journals are also reflected in the study and it is a very good sign of conducting literature research.

7) The analysis of chronological distribution of citation indicated the pattern of literature being used in research studies. The data indicated that the highest percentage of citations cited in the research study are ranging from 1981 to 1990 (29.27%) followed by 1991-2000 (20.05%). It is also observed that 12.74% citations are reported from the period 1966-75, whereas only 10.8% citations are reported for the current nine years 2001-2009. The trend in use of classical literature published before 1900 and 1901-1950 is also reflected 2.83%. Thus it is observed that researchers in LIS use traditional classical literature along with current literature. The maximum use of literature used is 49.32% ranging from 1981 to 2000 (nearly 20 years). This is the golden period of citing literature in the research work. It is also observed that the current publications are cited less due to less awareness to researcher. It is observed that the half life of LIS literature is 80 years and this indicates that information growth
of published articles in this area is normal and hence its half life is more than other discipline in social science where growth of literature is in abundance.

8) It is observed that researchers have consulted 41.75% book literature which is second in rank and from this it was noticed that around 89.80% book literature was used which is from three major countries USA, India and UK. Remaining 10.20% book literature used is published from different countries of the world but counts are very less. It is also observed that few book citations are not indicating the country of publication i.e. place of publication (7.27%). The US and UK literature is no doubt qualitative and hence cited more in the studies by researchers, but Indian literature has also occupied prominent usage (24.36%) since the research has national and local base.

9) Prominence of language is English and English is the dominant language (96.74%) and also an important communication language in the field of Library Science. The results observed are also similar with other fields of research. In case of Indian universities, trend of use of information resources published in local languages are also being reported but its usage is very less as the quality literature is not yet available in Indian Languages. In Gujrat sate Gujarati literature is cited and in Maharashtra State, Marathi literature is cited in the theses. It is also observed that in the states of India a research report (Thesis) is permitted to submit in regional language and hence Indian language literature usage is reported in research. However English is an international language used by different races for communicating with each other, besides local language. In order to make the work recognized by others, researchers usually use English as their communication medium. This is an indication to libraries to have a sound collection in English language along with local. Use of citations by the researchers in their research study as per the use of language indicated that three main languages are more popularly used i.e. English, Gujarati and Marathi. Among these three languages, an English language documents (literature) were cited 15781 out of 16313 (96.74%), Gujarati language has 452 (2.77%) and Marathi language documents cited were 41 (0.25%). This indicates that English is the prominent language of information source used by researchers. The local language has less influence but some literature published in Gujarati and Marathi is also very popular and being used in the study by researcher. Thus the language distribution of cited document shows the preference of research students in LIS, for documents published in English followed by local language.
10) Based on the cited data collected from the thesis, frequency of journals used by the researcher was ranked. The first 14 ranked journals cited more are listed in which, ASLIB Proceedings stands first and in this list Indian journals like IASLIC Bulletin, Annals of Library Science and Documentations are covered among 14 ranked journals.

11) ‘Obsolescence’ is a term that frequently occurs in the literature of bibliometrics and citation analysis studies. Analysis of citations by age of the cited documents can indicate the ‘useful life’ or the ‘Half life’ or the ‘Obsolescence rate’ of the documents. The half life of literature used for any study in a particular discipline depends on the number of years respectively needed to satisfy one half of all the literature cited on the subject or one half of the citations made to the literature in the current year. (Hadagali et. al , 2009). Half life period of the journal citation for the present analysis has 88 years.

12) A total number of 16313 citations were analyzed to ascertain the authorship pattern of cited documents by LIS researchers. Some of the cited documents such as reports, government publications, dictionaries and encyclopedias do not have personal authors but have editors, compilers, associations etc. Therefore these documents are included under the heads editor and corporate body in the analysis. The authorship pattern was categorized into 7 groups: single author, two authors, three authors, more than three authors, editors, corporate bodies and internet resources on URL.

13) The majority 11583 (71.00%) of citations in thesis are having single-author works. This is followed by 2428 (14.88%) works authored by two authors, 264 (1.62%) by three authors, and 62 (0.38%) are by more than three authors. The editors comprises 1034 (6.34%), corporate authors or bodies have 117 citations (0.72). The use of internet resources is increasing and in the study 825 (5.06%) information displayed over the net is being used by researchers. The authorship pattern in this study indicates that LIS dissertations favored single authors work. Among the 2428 cited documents 973 are represented by joint authors (Co-Authors). In the ranking of first five Bush and Harter represent first rank with 21 citations. Dr. S R Ranganathan reports rank one for solo authorship.

14) Authors from the 3548 cited documents were identified and sorted to calculate frequency count. These are only personal authors, excluding two and more than two authors, editors and corporate authors etc. Joint authors are treated separately. A total
of 3548 authors were identified with 11712 citations based on cumulative counts of author names. The ranking of authors as per citation count is calculated and authors cited minimum 20 times is considered for ranking purpose. The list includes prominent personalities in the field. Dr S R Ranganathan is most cited author (84 times). In the first ten ranks Indian authors are more prominent.

15) The cited references were analyzed as per the publishers to find ranking of the publisher and analyze most prominent publishers in the field of LIS. It is observed that from 7406 cited books represented 904 publishers. Out of these first 10 prominent publishers are Academic Press, Marcel Dekker, ALA, Prentice hall, Clive Bingley, McGraw Hill, Oxford, Ess Ess Delhi, Macmillan and Wiley Sons at the leading position having 1472 citations (19.92%)

16) A total of 670 journals contribute to the 6874 citations in this research study. Core journals are identified based on rank journals and found that first 25 ranked journals contribute 3351 citations (48.83%). There are 30 journals which count 3665 citations (53.31%) and accounts for 50% coverage of citations. Remaining 636 journals has 3209 (46.68%) citations. Thus the first 25 to 30 journals covers 50% need of the users. These can be considered as core based on ranking of citations. The most cited journal is ASLIB Proceedings with 321 citations, followed by Library Trends with 285 citations, JASIST on fourth rank with 178 citations.

17) The graphical presentation of Bradford’s Law of Scattering was applied to citations in the present study. For testing the applicability of Bradford’s Law of Scattering, a graph was plotted by taking the cumulative number of citations on y-axis and log of cumulative number of journals on x-axis. The curve starts rising exponentially and then linearly indicating that the data fits Bradford’s Law. From the graph it is observed that experimental curve is closely associated with theoretical line up to 6700 citations and then start dropping. The citations were grouped in to three zones of 2219, 4381, 6576. Sudhier (2010), had also conducted similar types of studies and satisfied the Bradford’s law.

18) It is observed that the research conducted so far in LIS covers mainly traditional concepts. The ranking of subjects revealed that academic libraries, reference services, information services, special libraries, ISB, citation analysis are prominent areas in which research studies have been conducted more. It is also observed that few studies covering latest trends in profession like ICT, library networks, internet, digital library etc. are also reflected since 2000 onwards.
19) The status of ongoing research points out that the research is covering the latest trends more in the area like open access, software’s, library management software’s, information literacy, resources sharing, content analysis, IPR, metadata, digital library, information gateway, web technology etc. along with traditional areas

20) Researchers in LIS are now using internet based resources along with print. The analysis of used sites indicate that ALA, DLIB, INFOTODAY, DRTC, OCLC, DELNET, NIC, LC, UNESCO, IFLA are the prominent sites used by the researchers while conducting research study.

7.3 Suggestions:-

7.3.1 Suggestion Based on National Research Development:-

1) Many research output in the form of theses are submitted in local language by the researches and local language of the thesis is the barrier to other researchers to use the document, e.g. in Gujrat universities few theses are submitted in Gujrati language and in Maharashtra in Marathi language. To remove the barrier of language at least summary and abstract of research must be given in English language to facilitate others and have an idea of intellectual product.

2) It is observed that data is distributed and reported differently in resources, but there is a need to have a unique source of compilation for authentication of data pertaining to degrees awarded in Indian universities as well as ongoing research. It is also possible to link theses database to international sources for exchanging the data. This helps in identifying topics for research and also avoiding duplication in research. No doubt efforts are taken as discussed but still data base is updated.

3) It is observed that out of 28 states in India prominent research is carried out in ten states and remaining states have low profile in research. There is a need in increase in research activity in every university. Karnataka and Maharashtra states are at leading positions but research guides are scanty and needs to be added in the roster of guides to attend more research scholars in the LIS field.

4) More than 50% research work was carried out in traditional areas but modern / current technological and managerial areas are less covered and there is a need to increase research in new areas. For this purpose research guides having more expertise in modern librarianship and technologies are to be included in the research guides panel.
5) The research conducted so far in Indian National Level is indicating the same trend as in developed country that till 2000 more research was based on traditional but they have initiated research in modern ICT based platform much earlier than developing counties like India, but the research activity in Indian universities has to look in to wider aspects of the currency like ICT and web based concepts.

6) Since research activity is increasing in all the universities there is a need felt to add more guides in the panel of every university.

7) It is strongly suggested that university libraries and other organizations awarding PhD Degrees in LIS has to develop their own web page and provide the updated data for the research completed and ongoing research in their universities and make the data available to others. This will definitely useful for developing databases, providing links, and also very useful to the researchers and research guides in avoiding duplication efforts.

7.3.2 Suggestion based on Western Indian Universities:-

1) It is found that researchers till use print media and use of journals and books more than other types of documents. It is suggested that electronics information resources are increasing fast and researcher have to make use of e-resources like databases, internet resources, and search engines etc for the research study.

2) It is noticed that researchers cited the references incomplete in the bibliography and references and hence it creates difficulty for the future researcher to find out the full text document. Researcher must have to take care and provide complete bibliographical details of the references in the research work and in case of internet resources researcher have to provide full URL and intellectual developer etc. (author, title etc.) to facilitate others to rich the source over the internet.

3) Research outputs in India in a particular period reported by different authors using different sources indicate different figures and hence reliability of data is in question. This is due to non availability of single source for data of Indian thesis. It is therefore recommended to develop WebPages of universities and provide updated data

4) Universities are conducting research programs it is noticed that more Indian journals are subscribed than foreign journals. It is suggested that based on the use study and ranked journals from this study at least the first 14 ranked journals need to be subscribed for conducting the research programme in university libraries. This rank list may be a guiding
principal for universities as well as developing information consortia among LIS departments.

5) From the study it is found that less resources and data bases are visualize and hence it is strongly suggested that university library must subscribe international database for the research activities like LISA, ILISA, EBSCO and EMARLD etc. There is a need to provide maximum access to the information available in the area and also sharing the resources.

6) Current trends in LIS education, technologies and management tools are now more applied in LIS but its research element is not reflected in Indian study e.g. consortia, resource sharing, library networks, information searching, open access, using free information software and tools application in LIS. ICT, IR is such types of research element which are more practical to LIS and need to be considered by the researchers.

7) From the study it was observed that till 2004 more impact of research was based on traditional library activities, but 2004 onwards, Bibliometrics, ICT applications in the library were more concerned areas and recently open access, institutions repositories, webometrics, scientometrics, citations analysis, LIS education curriculum, open sources, digital resource management and preservation, consortia, network based service these are the prominent areas but many are yet untouched.

8) Few emerging areas in LIS are listed below in which there is still scope to add the research element and also support to solve the issues. Disaster management, accreditation of academic libraries, use of technology for serving different users like lawyers, medical professionals, architecture, industrial libraries, blind, physically impaired etc., consortia, cooperative networks, search engines, ISB in different areas, web based information services, HRD/HRM, changing nature of reference service, skills in profession, collection development policies for different libraries, analyzing core collection in different areas, IPR issues including standards, digital library and digital resource management, data base development and its use for scholarship, IR, digitations of local collection, curriculum for LIS in changing scenario, electronic resources, marketing of libraries and income generation, human resource required in future libraries, internet based services, future libraries and librarianship, library orientation ways and means, reference services in different areas, library services performance, staff performance, library building/ space in future, trends and challenges, digital imaging, digital discovery, social networking. These areas are less touched as far as national and western part is concerned.

8) Qualitative seminar, workshop, conference covering latest trends to be managed regularly and proper funding is to be provided by different organizations like library
associations, UGC, AICTE, state and central government, etc. This may help in generating research attitude among the LIS researchers and also highlight the new areas in conducting research.

9) From the point of view of the library and information centers it is essential to evaluate and study the research trends from time so that it would be quite easy for designing, organizing and managing the various information services and products to catch the information needs of researchers effectively, expeditiously and exhaustively.

8) The research results are very useful for defining different policies based on factual data analysis. The results could be used to develop collection development policy, and other related policies for the organization of libraries.

9) The study pointed out that there is a need to conduct periodical orientation programmes for the research scholars to acquaint them with the advanced information tools and available resources in the library which may help in conducting better research.

10) In Goa University till date research programs are not conducted and there is a need to create research program activity in LIS and increase the research output from this university.

11) Gujrat state has research activity but research output is very low as compared to Maharashtra. There is a need to increase guides in Gujrat state to take care of more research elements from this state.

12) The overall analysis of the research carried out in the western Indian Universities, it is observed that topics revealed that the similar research output is reported at national level also selected for research (more than 50% work) relates to traditional functions. But analysis of ongoing research thoroughly touches to current areas but very few studies are being selected in modern practices.

13) While considering ongoing research about 136 students are guided 29 research guides. The distribution of guide is not even and hence it is reflected that few guides have more registered students, where as many guides have only 2-3 registrations.

The present research study, support to following aspects in LIS research.

Initially Citation analysis studies help in assessing the status of research and also the status of education at national and regional level. For the LIS departments the study is very helpful in restructuring the library science syllabus and adds currency to it based on the literature published and used as well as trends reported in the reality. The method of implementing syllabus in to practice and dividing it in to theory and practice modules for teaching purpose.
The LIS researcher may get useful literature and also pointer to use the popular literature. Similarly the citation studies may assist in fixing the research topics for new entreats in LIS field and is useful for the both researcher and research guide. The study is also useful for the library administrators in many ways e.g. fixing the collection procurement modes, types of document procurement, fixing policies, Organizing collection, procurement of qualitative publications as well as ranked information resources and also set information services for users. Thus citation study is essential and useful to both academics and Librarians.

There are five potential applications found from this study.

1. Adequate subscription to current periodicals.
2. Use based acquisition.
3. Retention of back runs of periodicals and other resources.
4. Resource allocations to different areas of research.
5. Consortium based procurement
6. Cost effective collection etc.

Focus on the probability of user activity

7.4 Areas for Further Research:-

There is a scope for continuation research using citations and similar studies can also be conducted in different areas. It is observed that more research emphasis is on particular areas viz. academic libraries and special libraries in which few areas like user satisfaction, cost effective collection development, KM, IRS, Information search strategy in which research scope is visualized for the followers.

1. Web citation patterns by research scholars of universities in western India.
2. Citation cycle (in a discipline).
3. Webometrics studies of prominent journals available on web.
4. User satisfaction.
5. Consortium based library services
6. Knowledge Management
7. ISR (Information Storage and Retrieval)
8. Change management
9. Changing role of the profession
This chapter is the main part in which findings and suggestions are detailed. The trends in research at national and global level are indicated and also listed the prominent research areas in which research is conducted more as well as emerging trends in LIS profession are also highlighted. The researcher also tried to find out the gaps in research and indicated the need of conducting more research. Part of this chapter fulfilled the objectives “To find prominent research areas and gap in research in LIS” as well as supports the statement of hypothesis “ ICT facilities are hardly explored by researchers”.

7.5 Conclusion:-

The exponential growth of subject literature, interdisciplinary nature of research and trend towards specialisation has posed many problems both to the information scientists and librarians. Emphasis is on national and international information system has signified the need for analysis of literature used by researchers. Doctoral theses which are the products of research activity have been examined through citation analysis with a view of finding out their effectiveness on the collection development of a library. For this purpose a case study of the doctoral dissertations of universities from western India library since 1981-82 to 2010-11, has been undertaken and the results have been recorded. Similar notable studies are also carried out by Verma and Murthy (1971), chambers and James (1984) and Devarajan and Vijayalakshmy (1982) in other fields. Data on users and use of library resources are necessary for the planning of the library services at all levels. The mechanism of collection of such data in a library not only helps the advancement of research potentialities but also facilitates advancing the knowledge gained into work several and new technologies have been adapted and new tools and techniques are implemented in to the profession to improve the information centres, and libraries to respond to the user’s needs. The revolutionary achievement is the use of computer. The bewildering position is that the user’s approach is found changing constantly and as a result it is difficult to predict or foresee their definite objectives or directions. It is essential therefore, to have an appropriate user study as it constitutes focal point in library and information science education, programme and resource building of a library.

Citation analysis is a practical tool to evaluate users needs and use of information sources by them while conduction any study. Research activates are increasing every years. With citation analysis libraries can evaluate suitability of collection which fulfils the need of users. Citation
studies helps in monitoring budget allocation, collection development, especially useful for journals selection, reserving and weeding.

Research is an important activity for the LIS because research findings are valuable and contribute to knowledge in the field. Since findings are based on practical experience of the researcher helps to solve the problems in the profession. Research helps practitioners to generate new ideas and creates more research projects continuously and also helps in contributing to future development by providing tangible evidences to support design making process and improvement in library services and functions. Hence research activity in LIS is to be increased. Hallam (2005) clearly pointed out that research is critical for creation of professional knowledge as well as development of knowledge, without research it is not possible to adopt new trends. It is also found that during 1997-2002 exploratory research, action research was carried out more frequently. Some research indicates emerging trends and missing links which become areas of greatest potentials to research community for conducting research. The future areas in LIS may depend on electronic information services, staff development, user need assessment, use of ICT, staff skills, networking etc.

There is a potential for improving LIS research using citation studies. The best practices in LIS research can be achieved by sharing the research work with other LIS professionals through publications and online data. This helps in increasing research culture. However it is felt that there is a need to consider use of bibliometric and citation studies to analyse different issues faced by library profession.