LIS RESEARCH IN INDIA 1980-2007:
An Analysis of Doctoral Dissertations

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Abstract: Analysis of doctoral researches conducted by universities clearly indicates the direction in which, a specific subject field is moving. It also indicates the thrust or grey areas of research that call for attention from researchers. This paper reports the results of a survey of the doctoral dissertations awarded by various universities in India in the field of Library and Information Science (LIS).

The authors carefully analyze the bibliographic details of doctoral degrees (PhD) awarded by Indian universities in the field of LIS during 1980 to 2007. The data required for the study was obtained from four sources namely Inflibnet, Vidyanidhi, University News and a web-based survey. The authors browsed on-line databases of doctoral dissertations developed by INFLIBNET and VIDYANIDHI. The back issues of University News (an official weekly newsletter of Association of Indian Universities, New Delhi) were scanned for the purpose. Further, a web-based survey was conducted for obtaining data from LIS professionals. The web-based questionnaire was mailed to LIS professionals through e-discussion forums like Lis-Forum, NMLIS, IATLIS and Corporatelibrn. A master spreadsheet containing 851 unique records was created after verifying records for duplication.

The survey results show that the output of doctoral researches in LIS field is increasing since 1980 and the growth is significant from 1990s. A steady development has been observed till 1995 and since then the growth of LIS research though increasing has experienced varied growth. While the maximum number of Doctoral dissertations was during 1995 and 2003, the minimum was found during 1998 and 2000-01. About 4.5% of research supervisors and 15% of Indian universities offering LIS education have

contributed significantly to the research output. Universities in South India have produced more doctoral researchers as compare to North India. Academic and public libraries are the most researched libraries. Information seeking behaviour, bibliographic/ bibliometric/literature study, and LIS education are most popular subject areas of LIS research. The other subject areas like measuring service quality from customers' perspectives, technical skills required for of LIS professionals, awareness and familiarity with open sources, level of utilization of open sources, tools and techniques of digitization, and metadata harvesting call for attention of LIS researchers/academicians.

Key words: LIS Research-India, India-LIS Research

1 Introduction

Research is an intellectual activity of gathering information needed to answer a question and thereby helping to solve a problem. It offers a pleasure of solving a puzzle, satisfaction of discovering something new and contributing to the wealth of human knowledge. Conducting research in any field of knowledge is very important because it greatly contributes to the growth of intellectual capital, which in turn contributes to the prosperity of the nation. Generally, the research is conducted to validate existing notions; discover new concepts and ideas or to formulate new theories based on facts. It enables to understand the current trends and changes in demand and to augment the knowledge base.

The universities are the centers of higher learning and serve as training ground for research scholars by providing basic research methodology in specialized fields. The success of their research depends upon the training they acquire in universities. Being the centers of research, universities are considered as vital aspect for the scientific progress of a nation.

2 Research in Indian Universities: An overview

Indian universities play a major role in creation and dissemination of knowledge by providing opportunities for research scholars to conduct research studies and to bring out doctoral dissertations as a unique genre of information resource. It is observed that every year, a significant number of doctoral dissertations are being produced by these universities in India (Vijayakumar, Hosamani and Murthy, 2005).

Indiastat.com (*http://www.indiastat.com*), a leading statistical data provider on India's macro & micro economy, reports that "As on March 2008, there are 382 universities promoting higher education in India". Of 382, 233 are state, 25 are central and 126 are deemed universities. These universities offer postgraduate courses and doctoral research programs in various subject disciplines. They also undertake research projects of national importance sponsored by government and other agencies. The doctoral researches are represented through the doctoral dissertations submitted to universities for the award of doctoral degree (PhD). A study of such doctoral dissertations indicates the direction of research in India.

Singh (2004) reports that 2,461 doctoral degrees were awarded by Indian universities in 1970-71 and by 1981-82, it had risen to 6,404. Ten years later, the number had gone up to 8,743 and the figure touched 11,534 doctoral dissertations during next

decade. The University Grants Commission, New Delhi (*http://www.ugc.ac.in*) in its 2005-06 Annual Report (2008, p168) states that the total number of PhD degrees awarded during 2003-04 and 2004-05 was 17,853 and 17,898 respectively.

3   LIS Research in Indian Universities

Library and Information Science is one of the professional courses offered by Indian universities. Raju (1997, p187-188) highlights that LIS education in India has gone a long way since independence and many library schools have started offering courses at graduate and postgraduate levels. It has been estimated that about 100 library schools in Indian universities are offering BLIS, MLIS, MPhil and PhD programs. These LIS schools have produced over 850 doctoral dissertations in the past 2½ decades contributing to the growth of the knowledge. An examination of such doctoral dissertations enables the researchers to have proper understanding of the growth of the subject. In this paper, the authors carefully analyze the successfully completed LIS doctoral dissertations (PhD) from 1980 to 2007.

4   Objectives of the Study

The primary objective of this study is to understand the growth and development of LIS research in India in the past 2½ decades. The specific objectives are:
1.   to know the development of LIS research in India 1980-2007,
2.   to identify the thrust areas of research in LIS;
3.   to understand the contribution by individual universities, research supervisors Indian states towards LIS Research; and
4.   to suggest the grey areas that require attention of LIS researchers,

5   Methodology

As the study was intended to examine LIS doctoral dissertations from 1980 to 2007, the data required for the study was extracted from four data sources namely INFLIBNET, Vidyanidhi, University News and a web-based survey. The online bibliographic databases of doctoral dissertations maintained by INFLIBNET (an autonomous IUC of University Grants Commission, New Delhi, http://www.inflibnet.ac.in), and Vidyanidhi (sponsored project of Government of India, New Delhi http://www.vidyanidhi.org) were browsed for relevant data. Besides, the back issues of print copy of University News (a weekly publication of Association of Indian Universities-AIU) were scanned and a web-based survey was also conducted for data collection. The questionnaire was developed using 'googledocs' and it was e-mailed to the members of various active e-discussion forums like NMLIS, IATLIS, Lis-forum, digilib-India, MANLIBNET-India, corporatelibrns, dlrg, and engg_lib_forum for data collection.

The data obtained from the above four sources were recorded separately and a master spreadsheet containing 851 unique records was created with careful examination for duplicate records. This spreadsheet served as primary data input for analysis and interpretation. SPSS package was used for data analysis. Frequency distribution and cross tables were generated by using the package.

6   Development of LIS Research in India

6.1   Growth of LIS Research: The productivity of LIS doctoral dissertations over the years is shown in Table 1.

Table 1
Growth of LIS Research

Period	Number of Doctoral dissertations	Percent(%)
1980-85	42	4.94
1986-90	103	12.10
1991-95	252	29.61
1996-00	150	17.63
2001-07	304	35.72
Total	**851**	**100.00**

The productivity of LIS doctoral researches was not very significant till 1985. The reasons could be attributed to insufficient infrastructural supporting facilities in universities. There were no directives from regulating bodies to possess doctoral degree for career advancements. The other contributing factor could be the number of universities engaged in LIS research during that period. About 14 universities (refer Fig.2) were engaged in doctoral research in LIS till 1985. Since 1990s, the UGC and AICTE and other bodies indicated the requirement of doctoral degree for career advancements/academic recognitions and provided grants to improve facilities. This might have been contributed for the increased output in LIS research since 1990s. A significant growth was observed during 1991-95 and 2000 onwards.

The figures shown in Fig.1 indicate a steady growth till 1995 and sharp variations since then. Record growth has been registered during 1995 and 2003. The sharp decline is visible in 1998 and 2004 respectively.
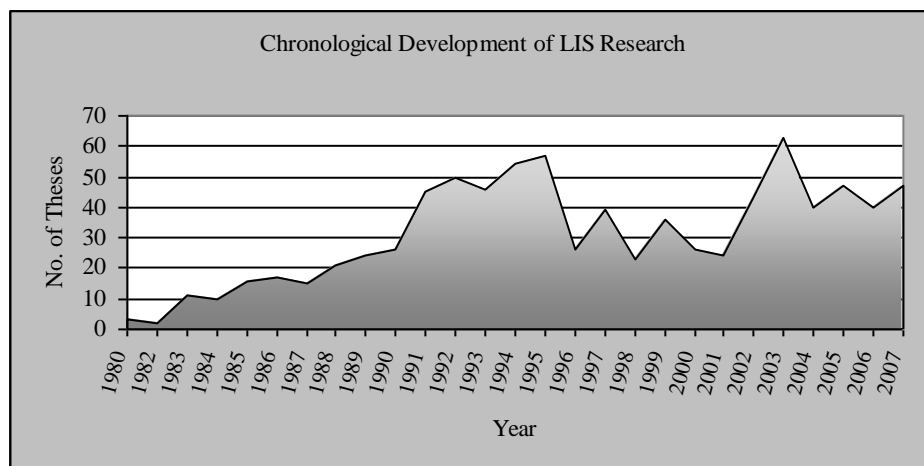

Fig.1: Growth of LIS Research

6.2   Productivity of Research Supervisors: Research supervisor plays an important role in the productivity of research outputs by individual universities. The seriousness of research scholar, proper guidance from supervisor and the infrastructure facilities provided by universities play an important role in the productivity of research output. Table 2 illustrates the output of research supervisors and the figures vary from 1 to 23 doctoral students.

Table 2
Output of Research Supervisors

Output of Doctoral Students	No. of Research Supervisors	Percentage (%) (Excluding DNP)
1. 10 and above PhDs (11 to 23)	12	04.17
2. 5 to 9 PhDs	34	11.81
3. 3 to 4 PhDs	38	13.19
4. 2 PhDs	42	14.58
5. 1 PhD	162	56.25
6. Data Not Provided(DNP)*	127*	--
Total excluding DNP	**288**	**100.00**

Note: * Supervisor's name is not provided. The figures might vary if DNP data is available.

It is observed that about 288 research supervisors are engaged in guiding doctoral students in LIS field in Indian universities. The figures in the above table indicate that more than half of research supervisors (56.25%) have produced one doctoral student. Another 14.58% have produced two researchers. Only 4.17% of them have guided more than 10 doctoral students. Similar to social science research, the LIS research in India spans for 4 – 5 years and an individual research supervisor can take five doctoral students. Hence, any fresh admission to the doctoral programme in universities is subjected to the successful completion of research by existing doctoral students. However, the figures in the above table (slno.5) depict a dismal picture of research output. This may require a closer look into the issues that are contributing to this situation.

It is interesting to note that about 1/3rd of the high performing supervisors are from Karnatak University, Dharwad and about 3/4th of this group are from Universities in Southern India.

6.3   Contribution of Universities in LIS Research:

As mentioned earlier, about 100 universities in India are engaged in imparting LIS education and research in India and it is pleasing to note that 80% of them are engaged LIS research. The doctoral degrees awarded by these universities vary from 1 to 67 PhDs. The detailed list of doctoral degrees awarded by universities is given in *Appendix -1* (http://www.tapmi.org/html/Mast_LISResearch%20final-ALiep.htm) and the consolidated figures are shown in the Fig.2 and Table 3. The growth of LIS schools that are offering doctoral degrees illustrates. Fig.2
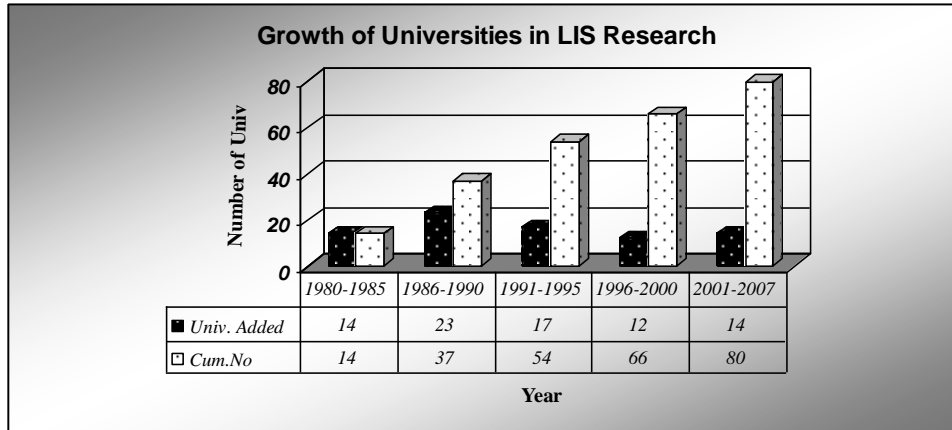
Fig. 2: Growth of Universities offering PhD programs in LIS

Note: * The year is based on the PhDs awarded by the universities in LIS. It is not related to year of establishment of the university

It is evident from Fig.2 that the number of universities offering LIS research programmes is significantly increasing over the years. Till 1985, there were about 14 universities offering research programs. The figure rise to 37 by 1990 as 23 universities added to the list. The next decade observed an addition of 29 universities and currently, 80 universities are engaged in doctoral research. The period 1986-90 appears to be noteworthy period for the growth of universities in LIS research.

A cross examination of doctoral dissertations of universities during the study period clearly indicates performance of individual universities. The consolidated figure of doctoral dissertations awarded by the universities is presented in Table 3 (full list is given in *Appendix 1,* (http://www.tapmi.org/html/Mast_LISResearch%20final-ALiep.htm))

Table 3
Number of Doctoral Degrees in LIS Awarded by Indian Universities

No. of Doctoral Degrees Awarded (1980-2007)	No. of Universities	Percentage (%)
Above 20 PhDs (21-67)	12	15.00
11 to 20 PhDs	16	20.00
6 to 10 PhDs	14	17.50
1 to 5 PhDs	38	47.50
Total	80	100.00

The figures presented in Table 3 reveal that 80 universities are engaged in LIS research. It is observed that nearly half of them have produced less than 5 doctoral degrees in the past 2½ decades. Another 37% of them have produced 5 - 20 doctoral students and only 15% of them appear to be high performing with more than 20 doctoral degrees in their credit. These high performing universities are listed in Table 4.

.Table 4

High Performing Universities in LIS research

Slno	University	80-85	86-90	91-95	96-00	01-07	Total
1.	Karnatak Univ., Dharwad, Karnataka	14	7	16	13	17	**67**
2.	Andhra Univ., Waltair, Andhra Pradesh	3	0	17	11	16	**47**
3.	Jiwaji Univ., Gwalior, Madhya Pradesh		2	20	8	13	**43**
4.	Punjab Univ., Chandigarh, Punjab	6	14	9	2	10	**41**
5.	Banaras Hindu Univ., Varanasi, U.P.	3	13	21	2	2	**41**
6.	Univ. of Rajasthan, Jaipur,Rajasthan	2	9	10	6	6	**33**
7.	Kerala Univ.,Tiruvananthapuram, Karela		4	24	1	2	**31**
8.	University of Delhi, Delhi,	2	3	12	3	6	**26**
9.	Univ. of Madras, Chennai, Tamil Nadu		2	3	2	18	**25**
10.	Osmania Univ., Hyderabad, A.P.		1	5	8	11	**25**
11.	Univ. of Mysore, Mysore, Karnataka	1	4	4	8	7	**24**
12.	Vikram Univ., Ujjain, M.P.		4	7	4	7	**22**

Note: Sl no. 1 & 11are from Karnataka; 2 & 10 are from Andhra Pradesh; 3 & 12 are from Madhya Pradesh.

It is observed that half of the high performing universities are from Karnataka, Andhra Pradesh, and Madhya Pradesh. The remaining half is from other states such as Delhi, Kerala, Punjab, Rajasthan, Tamil Nadu, and Uttar Pradesh. Interestingly, half of the high performing universities are from southern India and other half is distributed across other regions of India.

6.4 State-wise Productivity of LIS Research:

In India, UGC and state governments are the major sources for finance, manpower and infrastructure development in universities. Hence, the state governments also play an important role in education and research in universities. The state-wise distribution of LIS doctoral dissertations is presented in Table 5.

Table 5
State-wise Productivity of PhDs in LIS

States		Period_Year				Total	Pct%
	80-85	86-90	91-95	96-00	01-07		
1. Karnataka	18	17	30	34	47	146	17.16
2. Madhya Pradesh		9	39	16	39	103	12.10
3. Andhra Pradesh	3	3	25	25	35	91	10.69
4. Uttar Pradesh	3	14	21	6	22	66	7.76
5. Maharashtra	2	7	11	11	27	58	6.82
6. Punjab	7	14	14	6	14	55	6.46
7. Kerala		6	33	3	7	49	5.76
8. West Bengal	3	2	19	11	14	49	5.76
9. Rajasthan	2	9	10	9	16	46	5.41
10. Orissa	1	2	15	9	18	45	5.29
11. Tamil Nadu	1	4	4	5	25	39	4.58
12. Delhi	2	6	15	3	8	34	4.00

13. Assam		4	6	4	6	20	2.35
14. Gujarat		3	1	1	9	14	1.65
15. Meghalaya			1	3	10	14	1.65
16. J & K		2	4	2	1	9	1.06
17. Haryana			1	2	5	8	0.94
18. Bihar		1	3		1	5	0.59
Total	42	103	252	150	304	851	100.00

Of 28 states in India, it is pleasing to note that 2/3rd of them have LIS research programs in the universities located in their state. Among the states, Karnataka has produced maximum number of PhDs (146) followed by Madhya Pradesh and Andhra Pradesh (103 & 91). Gujarat, Meghalaya, J& K, Haryana and Bihar ranked least with less than 15 PhD awards. As mentioned earlier, the factors like the availability of doctoral students, eligible research supervisors, financial assistance and infrastructure facilities do have impact on promotion of research in universities.

6.5   Research carried on Specific Type of libraries

The authors observed that LIS research has been conducted considering different type of libraries such as academic, special, R&D and Public libraries. The type of libraries covered in LIS research is shown in Table 6.

Table 6
Type of libraries covered by LIS (n=851)

Academic Libraries*	284	Special Libraries**	61
Public/Rural Libraries	57	Agricultural Libraries	29
Industrial Libraries	21	Libraries in General	20
Oriental Libraries	8	Libraries-abroad	6
Government Libraries	5	National Library	1
Subject Specific Researches	359		

Note: * include Univ. Lib (176), Health Lib (29), Tech/Mgt.Lib (29), Coll.Lib (26),others(24). ** R&D (13),

Media (6), Scientific (4), Defense (3), Social Science (3), Others (32)

The specific category of libraries covered in LIS research are Academic, Special, Public, Agriculture, Industrial Libraries in that order of research output. Oriental and Government libraries are also being studied by LIS researchers. Among academic libraries, university libraries are most studied libraries followed by health science, technical and college libraries. The next important segment of libraries covered is public libraries. Among special libraries, half of the doctoral dissertations have addressed the issues in general (i.e no specific segment of special library). The remaining half is spread among R&D, media, scientific and defense libraries. Agricultural and Industrial libraries are the other favoured libraries.

6.6   Subject-wise Research Output in LIS:

The thematic areas were focusing on topics such as bibliographic/bibliometric study, history & development, library administration, HRD, information seeking behaviour etc. An examination of subject of research study clearly indicates the thrust areas of research and it also indicates the direction in which, the research is progressing. For the current study, the authors consider the subject headings and keywords provided by researchers and database designers. The terminologies provided by individual researchers have been modified to bring uniformity. The full text of consolidated relative subject headings is provided in *Appendix 2* (http://www.tapmi.org/html/Mast_LISResearch%20final-ALiep.htm) and the specific subject areas that received much attention from LIS researchers are summarized in Table 7.

Table 7
Subjects areas favoured by LIS Researchers

Bibliographic/Literature Studies (127) (Bliblio-32; Bibliometric-41;Literature-29;Citation-21; Others-4)	User Studies/Surveys (125) (Infn Seeking Beh-42; Lib Utility-35; Infn Needs-31;Others-17)
Lib. Automation/IT in Lib (76) (Lib Auto-18, IT in lib- 31; DigLib-10; Others-17)	Library Management/Administration (74) (Lib Admn-18; Lib Fin-17; Marketing-8; Others-31)
HRD/Personnel (66) (Job Satisfaction-10; Attitude-8; PerMgt-7; Others-41)	Growth & Development (59) (Univ lib-12; Pub lib -12; Coll lib-5- Others-30)
Library Profession/Librarianship (51) (LIS Edun-21;Lib & Soc-10; Lib Legislation-7; Others -23)	Information System/Design (45) (Agri Info- 9; Industry-7; Health-7; Others-22)
Library Services (36) (Infn Service-13; Access to Infn-6; Lib Service-5; Others-12)	Library Network (33) (Resource sharing-4; Rural libnet-3; Health lib-3; Others-23)
Indexing/Cataloguing (32) (Indexing System-17; Catalog-11; Thesaurus -4)	Role of Library in research, reading, society, communication etc, (25)
Classification (24) Schemes-13; Orgn of knowledge – 3; CC-4; Others-4)	Collection Development (19)
Information Retrieval (16) (IRS/Model-5; Expert Sys-2; Others-9)	Reference Sources (15)
Library Evaluation (9)	Quality Management (8)

Note: 1. The figures in parenthesis represent the number of PhDs awarded on the specific subject.

2.   The topics in parenthesis are the favoured research topics by LIS researchers in that Category. The subject has been generated based on the primary focus of the study reflected through title of doctoral dissertations and keywords assigned to them.

3.   Others- The other related topics in that category and details are given in *Appendix-2* (http://www.tapmi.org/html/Mast_LISResearch%20final-ALiep.htm)

An examination of subject areas shown in the above table indicates the focused/thrust areas of research.   The most favoured researched topics are bibliographic/citation/bibliometric studies; user/customer studies/ library automation/IT application in libraries; library administration; HRD issues; development studies and librarianship(above 50 doctoral dissertations) the second set of favoured subject areas (20 to 50

doctoral dissertations) are Information system design; Library/Information services; library networking;

Further, an examination of doctoral dissertations over the years revels that (The table is not provided for brevity of the paper):

- Literature studies such as bibliographic/citation studies/bibliometric studies were more focused during 1991-95 and the trend increased again from 2000;
- Customer/user surveys found more during 1991-95 and slightly decreased in next decade and gained attention in 2001-07 period;
- Since 2001, significant number of research has been done in the areas of Library automation/IT application in libraries;
- Library Management/Administration is one of the traditional areas of research, (library finance, collection development, serials management, library services etc) that have caught the attention of LIS researchers since 1980s.
- HRD/Personnel related studies are evenly spread across the decades. In other words, this area has got the attention of researchers since 1980s.
- Study of Growth and Development of different types of libraries found more during 1991-95 and the trend slightly declined during next decade. It gained attention again during 2001-07. Further, university and public libraries are the most popular subjects of research as compare to other type of libraries.
- Information System Design on various fields of knowledge has gained attention of research scholars since 1980s as the spread is almost even over the years. Similarly, library services also are matter of interest since 80s.
- Though the concept Library networking has its root two decades back, the trend gradually increases over the period and significant development has taken place during 2001-07. Of late, the term networking is transformed to consortium to cover cooperative efforts and effective resource sharing.
- Classification, cataloguing and indexing receives attention since two decades.
- Library evaluation and quality management from user's perspectives is of recent origin and yet to catch the attention of researchers.

7   Summary and Conclusions

Analyzing LIS research for the past 2 ½ decades unearths many interesting facts and it reveals the areas that needs more attention of LIS researchers. The major findings of this study can be summarized as follows:

- LIS research is showing continuous improvement as number of doctoral degrees awarded by Indian universities is increasing over the years. Significant development has been observed since 2001. While the degrees awarded are most during 1995, they are least in 2003.
- It is found that 80% of Indian universities that are offering LIS education have produced doctoral students. Though 80 universities engaged in LIS Research in India, half of them have produced less than five PhDs in the past 2 ½ decades. The factors contributing to this situation need further probing by LIS community. Further, it is observed that the universities in Southern India have produced more doctoral students as compare to universities in Northern India. The associations or government bodies can look at this issue more closely.

- It is to be noted that about 15% of LIS schools in India have produced more than 20 PhDs in the past 2 ½ decades. The number is varying from 22 to 67 PhDs.
- About 5% of research supervisors have produced more than 10 doctoral students. The number is varying from 10-23 supervisions. More than half the LIS research supervisors' has produced just one doctoral student. As per University norms, a supervisor can supervise five students. The authors opine that the supervisors, universities and LIS associations should take interest to access the current status and devise correct measures for improving the productivity and quality of the research.
- Karnataka, Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Maharashtra are the top performing Indian states producing over 60 PhDs in LIS. The Number varies from 58 to 146.
- Regarding libraries chosen for research, University, Public, Health Science, Special, Agriculture, Technical, College libraries are the favoured libraries by LIS researchers. Further, University and Public libraries are most researched libraries in India.
- The subject areas like Bibliographic/literature study, User Studies, Library Automation/IT application, Library Management, HRD/Personnel, growth & development and Library Profession/librarianship are most favoured subjects with more than 50 doctoral dissertations.
- The subject like measuring service quality from customers' perspectives, technical skills required for LIS professionals, awareness and familiarity with open sources, level of utilization of open sources, tools and techniques of digitization, expertise in meta data harvesting, expertise/familiarity with statistical packages for research analysis, conducting market research in own libraries, professional status as compare faculty members, salary structure of LIS professionals at different levels signals the attention of LIS researchers/academicians.

Conclusions:

Research and development are the index of prosperity of the nation. The LIS research in India is gaining the attention of LIS researchers. The number of researchers registering for doctoral research is increasing over the years. Though the output is increasing over the years, the productivity of individual universities is not very encouraging. There could be several factors contributing this situation. It is high time that the universities and research supervisors take stock of current status of research and initiate corrective measures to improve the productivity of qualitative research. In the era of internet, the ICT supported and professional related subject areas call for the attention of LIS researchers and research in those areas will definitely contribute to the growth of knowledge and country.

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