October 2021

CITATION ANALYSIS OF LIBRARY AND INFORMATION SCIENCE DOCTORAL THESES AWARDED BY UNIVERSITIES IN INDIA WITH JABREF REFERENCE MANAGEMENT SOFTWARE

AVINASH KUMAR SINGH Mr.
Babasaheb Bhimrao Ambedkar University, avinashsingh4423@gmail.com

Vinit Kumar
Babasaheb Bhimrao Ambedkar University, mailvinitkumar@gmail.com

CITATION ANALYSIS OF LIBRARY AND INFORMATION SCIENCE DOCTORAL THESES AWARDED BY UNIVERSITIES IN INDIA WITH JABREF REFERENCE MANAGEMENT SOFTWARE

Avinash Kumar Singh
Research Scholar
Department of Library and Information Science
Babasaheb Bhimrao Ambedkar University, Lucknow
Email: avinashsingh4423@gmail.com

Vinit Kumar
Assistant Professor
Department of Library and Information Science
Babasaheb Bhimrao Ambedkar University, Lucknow
Email: mailvinitkumar@gmail.com

ABSTRACT

Society's growth and progress are totally dependent on ongoing research. Citation analysis is one of the most common research methodologies used to assess the quality of research in any area of a topic. A bibliometric study would be helpful to all LIS members. To fulfil the study's goals, citation analysis techniques were utilized. The information was gathered from the Shodhganga repository, which is an online database of Indian theses. The Journal of the American Society for Information Science and Technology received the most citations. According to the research, it was ranked first out of 1929 national and worldwide referenced publications, while just seven Indian journals were in the top twenty most cited journals. The current research also suggests that in the LIS field, there is a need to promote collaborative research and improve the quality of articles published in Indian research journals and that Indian academics should pay more attention to peer-reviewed journals for publication so that their research is visible to readers.

1.1 INTRODUCTION

In many domains of knowledge, a plethora of academic literature is available, generating dynamic changes in the information demands of researchers in any subject. They require an up-to-date piece of information at a specific moment. There are several electronic and print

information options accessible to suit their information demands. Searching for information is an essential part of every study project. The correct information at the right time helps to make the right decision regarding any research. This dynamic change in the needs of researchers poses a challenge to library professionals and researchers to select the most relevant journals and scholarly databases for a subscription. Because librarians have a certain amount of cash to distribute, choosing good information sources is critical. To address these challenges, librarians and academics undertake bibliometric studies to determine the researchers' information demands. Citation analysis is one of the most widely used research methodologies in the field of bibliometrics. The citation analysis is based on the simple logic of resource utility: the more a resource is referenced in the literature, the higher its value in that field is. Citation analysis is one of the most widely used research methodologies in the field of bibliometrics. Citation analysis is a methodology or a procedure that is used indirectly. It helps research citations of supplied references to other publications and journals and provides credit to the author for his work. Citation analysis determines the current state of research in a particular subject. It is gathered and evaluated from many sources of documents. Citation analysis also establishes a link between the papers or documents cited and those mentioned.

The current study examines the citation habits of Indian doctorate research researchers in Library and Information Science from the top five Indian institutions. The citation pattern of theses submitted for a Ph.D. degree in Library and Information Science is used to assess their citation behaviour. This study aims to give M.Phil. and Ph.D. scholars guidelines for identifying and selecting information sources.1.2 Citation analysis

1.2 REVIEW OF LITERATURE

A literature review is based on prior research, or it is a method of reviewing or evaluating research efforts and providing direction and identifying gaps in the current literature. A method for locating original and novel research on any given topic. In their work titled 'Bibliometric Analysis of IP&M Journal (1980–2015),' Abdi, Idris, Alguliyev, and Aliguliyev (2018) looked at 2913 publications from 1980 to 2015. Articles are given precedence (67.15 percent) among the various document categories, according to their research. The researcher identified the top 10 prolific inventors, top 10 foundations, and top 24 productive nations in this inquiry with numerous reports. The highest degree of promises has been given to analysts from the United States (50.88 percent). The researchers also

discovered that the amount of coordinated effort increased several times between 1980 and 1985 and 2010 to 2015. Similarly Udo (2018) examined 119 journals and 1022 papers published in library and information science publications available in university libraries in Imo State, Nigeria, between 2004 and 2013. The data was analysed using bibliometric analysis, which was the approach utilised in this study. The study's goals were to look into the most popular issue among LIS academics for research and to determine the authorship pattern. The majority of LIS researchers referenced single-author publications for their investigations, according to this survey. Information Communication Technology (ICT) was the most chosen subject among LIS researchers for their studies. According to this research, journals were the most referenced, followed by monographs, books, and magazines.

Similarly, in their paper Bibliometrics of Library and Information Science Research in India from 2004 to 2015, Garg and Sharma (2017). They looked through 2428 publications to figure out how the number of LIS journals is growing. According to the findings, the year with the most publications was 2010, and academic institutions contributed the most to publishing articles. Similarly, Singh and Singh (2017) examined 20 publications from the International Journal of Library and Information Studies that were referenced 118 times on Google Scholar between 2011 and 2015. According to research, the most papers were mentioned in 2012, while the minor articles were cited in 2015. Following single-authored papers, the majority of publications were provided by two authors, and three authored articles were followed by four written articles cited in the IJLIS Journal. This analysis discovered that a single writer, Velmurugan's C paper received 14 (41.18 percent) Google Scholar references in 2013. Tupe and Khaparde (2016) evaluated 171 research papers published between 2011 and 2015 in their work titled "Scientometric Analysis of Pearl: A Journal of Library and Information Science." The study's primary goals were to determine author productivity, co-author pattern, nation distribution, and year distribution. According to this data, the most significant number of authors per article is 1.98. The most important number of contributions is 25.5 percent in 2011, with 43 out of 171 papers published by Indian scholars. In India, Pradhan (2015) conducted a citation analysis of academic publications in the field of library and information science. This study aimed to assess the trend of LIS and authorship patterns in worldwide LIS journals from 2001 to 2010. The research also identifies LIS and authorship patterns. A total of 353 articles from 2001 to 2010 were examined. According to this report, most papers published in international LIS journals by an Indian author are single-author papers. Teli and Maity (2015) conducted a bibliometric study of research articles published in the 2014 issue of the DESIDOC Journal of Library and Information Technology.

In 2014, DJLIT published 52 research article papers with a total of 761 citations. Single authored citations accounted for 38.11 percent of the total, followed by double composed and more than double authors.

1.3 SIGNIFICANCE OF THE STUDY

- ➢ The findings of this study will aid library science academics and library workers in better understanding the information demands of library and information science researchers.
- ➢ Based on the study's conclusions, LIS departments and librarians may design a better collection development policy for their LIS collection.

1.4 OBJECTIVES OF THE STUDY

The objectives of this study are as follows.

- ➢ To determine the top twenty journals in Library and Information Science chosen by doctorate researchers at universities.
- ➢ To find out what the most popular study topics are among India's doctorate LIS researchers.
- ➢ To find out the preferred types of information sources among the Indian doctoral LIS researchers.
- ➢ To measure the various citation metrics for the Indian doctoral theses uploaded to date on Shodhganga.

1.5 RESEARCH METHODOLOGY

Citation analysis methodologies were utilized to fulfil the study's aims in this study. The data was gathered from the Shodhganga repository, an online database of Indian theses (http://shodhganga.inflibnet.ac.in), and analysed using JabRef reference management software, Microsoft Excel, and Google Sheets for tabulation and graphical display. There is a total of 141 theses accessible, with a total of 18638 references found. The study's population consists of five universities, which is as follows: -

1. Banaras Hindu University (BHU)
2. Jadavpur University (JU)
3. University of Delhi (DU)

4. Savitribai Phule Pune University

5. Aligarh Muslim University (AMU)

1.6 DATA ANALYSIS AND INTERPRETATION

Table: 1 Ranking of Journal

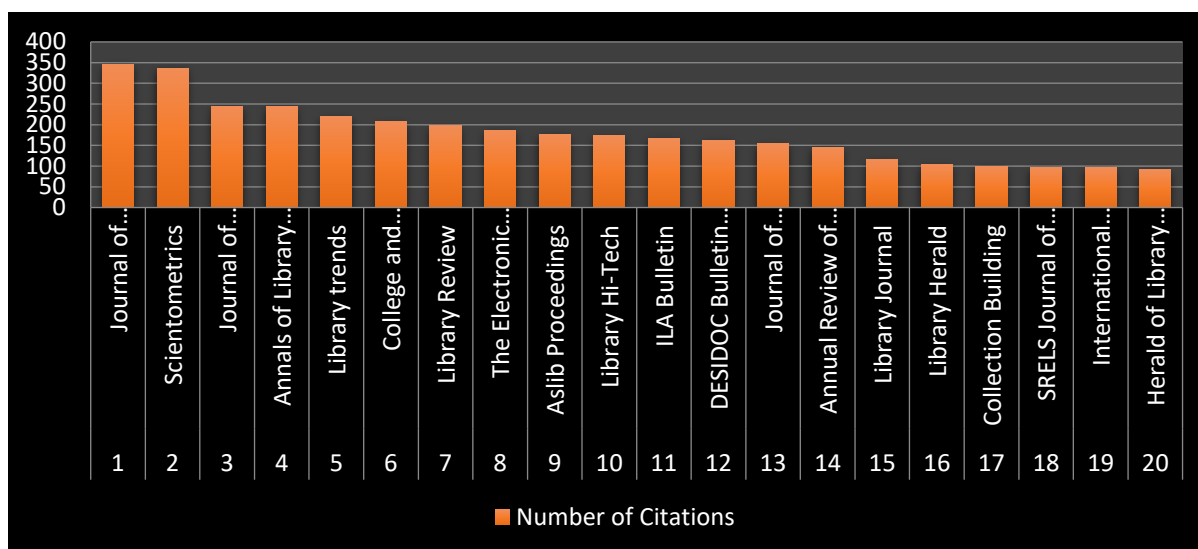| Rank-wise	Name of the Journal	Number of Citations
1	Journal of American Society Information Science Technology	346
2	Scientometrics	337
3	Journal of documentation	245
4	Annals of Library and Information Studies	245
5	Library trends	220
6	College and Research Libraries	207
7	Library Review	198
8	The Electronic Library	187
9	Aslib Proceedings	177
10	Library Hi-Tech	174
11	ILA Bulletin	167
12	DESIDOC Bulletin of Information Technology	162
13	Journal of Academic Librarianship	154
14	Annual Review of Information Science and Technology	146
15	Library Journal	116
16	Library Herald	104
17	Collection Building	100
18	SRELS Journal of Information Management	97
19	International Information & Library Review	96
20	Herald of Library Science	91

Figure 1 Ranking of Journal

Table 1 and figure 1 show the rankings of journals in the subject of library and information science, based on the total number of citations in Indian doctoral theses submitted to the Shodhganga repository. According to the data, the American Society for Information Science and Technology Journal has the most citations (346) and is ranked #1 out of 1929 national and international publications. Scientometric, on the other hand, came in second with 337 citations. Only six Indian journals made it into the top 20 journals cited by LIS Doctoral researchers: Annals of Library and Information Studies (4th rank with 245 citations), ILA Bulletin (11th rank with 167 citations), DESIDOC Bulletin of Information Technology (13th rank), Library Herald (16th rank), and SRELS Journal Information Management (1st rank) (20th rank having 91 citations). The remaining fourteen periodicals are all international.

Table: 2 Subject-wise distribution of research in LIS

S.No.	Subject-wise	Number of Theses
1	Academic Libraries	8
2	Bibliometrics	31
3	Cataloguing	2
4	Classification	5
5	Collection Development	5
6	Digital Library	12
7	ICT	20
8	Library Management	30
9	Library Services	8

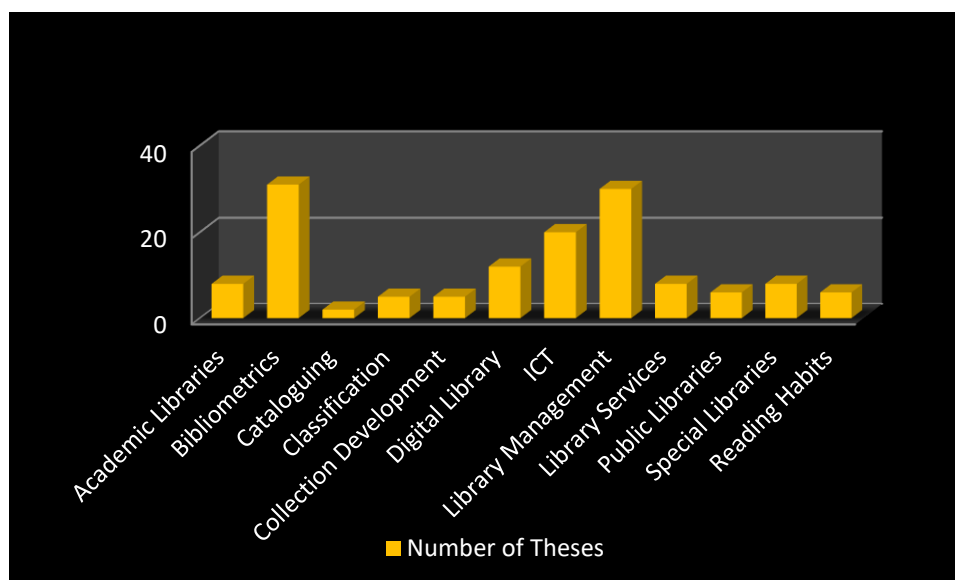|			
10	Public Libraries	6	
11	Special Libraries	8	
12	Reading Habits	6	
	Total	**141**	

Figure 2 Subject-wise Distribution

Table 2 shows the subject distribution of doctorate theses and dissertations in the discipline of LIS that have been uploaded to the Shodhganga repository. It should be noted that the table lists a total of 12 crucial study areas on which LIS scholars have performed their research. It was discovered that in the field of library and information science, the majority of researchers were interested in Bibliometrics (31 theses out of 141; 21.99 percent), followed by Library Management and ICT. The chart above is significant not just for academics but also for aspiring researchers. Furthermore, it will aid in the selection of a study topic.

Table: 3 Citation of Documents

S.No.	Types of Documents	Number of Citations	Percentage
1	Books	3112	16.69
2	In Collections	1165	6.25
3	In Proceedings	656	3.51
4	Articles	10, 768	57.78
5	Theses	27	0.15
6	Miscellaneous	2790	14.96
7	Technical Reports	106	0.56
8	Unpublished	14	0.075

Total		**18638**	**100**

LIS researchers analysed the consumption statistics of several documents in Table 3. Following an examination, it was discovered that the researchers had mentioned eight different sorts of papers in their thesis. Researchers cited articles or research papers the most (57.78 percent of the entire sample; 10, 768 citations), followed by books (3, 112 citations), and unpublished publications cited the least (14 citations) by library and information science research academics.

Table: 4 Authorship Pattern

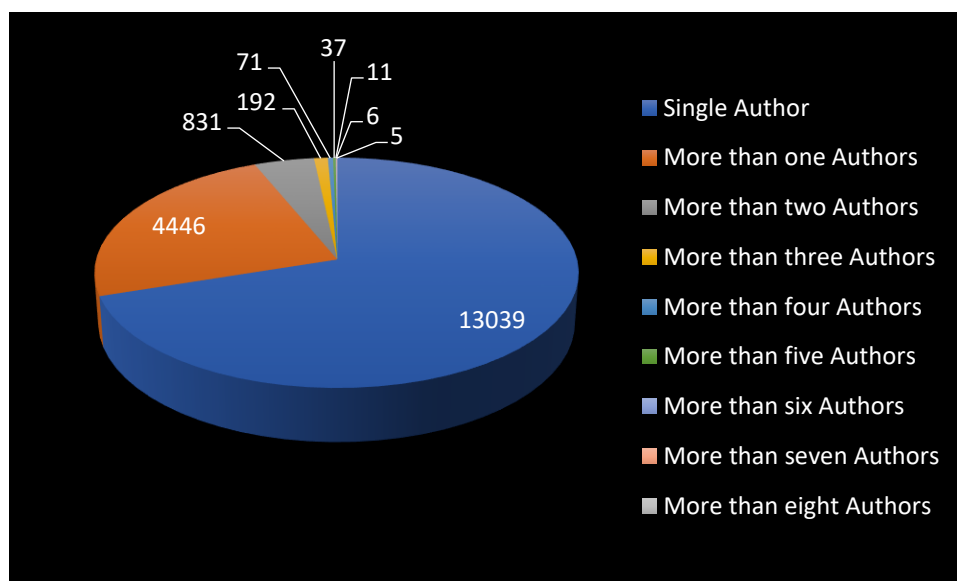| S.No.	Authorship Pattern	Total of No. Authors	Percentage
1	Single Author	13039	69.95
2	More than one Authors	4446	23.85
3	More than two Authors	831	4.45
4	More than three Authors	192	1.04
5	More than four Authors	71	0.38
6	More than five Authors	37	0.19
7	More than six Authors	11	0.06
8	More than seven Authors	6	0.03
9	More than eight Authors	5	0.02
	Total	**18638**	**100**

Figure 3 Authorship Pattern

Table 4 reveals that a single author article was referenced the most (69.95%), followed by two or more authors (23.84%), and so on. This means that just one work by a single author received more than 50%. Another interesting statistic is shown in the table, which indicates that publications with nine authors also received citations in theses.

Table-5: Top 20 Cited Authors

S.No.	Author Name	Frequency
1	S.R. Ranganathan	97
2	F.W.Lancaster	48
3	Garfield	46
4	M.Thelwall	34
5	M.P.Satija	33
6	K.Kumar	32
7	D.Ellis	32
8	L.Egghe	30
9	T.D.Willson	27
10	J.Bar-ilan	26
11	J.H.Shera	25
12	Derek J.de Solla Price	25
13	R.G. Prasher	25
14	S.P. Singh	22
15	M.B. Line	21
16	C.R. Kothari	18
17	A. Pritchard	17
18	P. Johnson	15
19	G. Salton	15
20	P.N. Kaula	14

The top 20 authors who LIS scholars have frequently referenced are shown in Table 5. Only seven Indian authors were among the top 20 quoted authors, according to the data. S R Ranganathan is on top with 97 citations, followed by M. P Satija in 5th place with 33 citations, K Kumar in 6th place with 32 citations, R.G. Prasher in 13th place with 25 citations, and P.N. Kaula in 20th place with 14 citations. K Kumar and D Ellis, and J H Shera and D J Solla Price, respectively, are ranked sixth and tenth in the aforementioned list.

1.7 CONCLUSIONS

It has been observed that the position of library and information science experts is rapidly evolving and progressing towards modernization technologies. As a result, citation analysis is vital in the modernization life of researchers and other members of the profession to understand the value of documentation and their details of particulars information which was briefly explored by the authors and many information need to know authorships pattern, core journals, and many other things which are dependent on the researchers' query as well as it is a citation analysis.

1.8 SUGGESTIONS

Following are some recommendations based on their findings for librarians to improve the quality of their research and decision-making.

- ➢ Typically, libraries spend more money on books than on journal subscriptions. Periodical subscriptions should receive more funding from libraries.
- ➢ Indian academics should pay greater attention to peer-reviewed publications for publishing their research to be seen by readers.
- ➢ The study strongly advises library and information science academics to pay close attention to fresh or emerging research ideas in the area instead of relying on well-established notions.

REFERENCES

Abdi, A., Idris, N., & Alguliyev, R.M. (2018). Bibliometric analysis of IP&M Journal (1980-2015). *Journal of Scientometric Research, 7(1)*, 54-62.

Aina, L.O. & Mooko, N.P. (1999). Research and publication pattern in library and information science. *Information Development, 15 (2),* 114-119.

Alves, M.B.M., Lehmkuhl, K.M., Pinheiro, L.V., & Silva, D.M.N. (2014, March). Correlation between   information needs and the library collection: a citation analysis study of doctoral theses at University Federal de Santa Caterina Library. *Proceeding of the   IATUL   conferences.   R*etrieved   from http://docs.lib.purdue.edu/iatu/2014/bibliometrics/on

Chatterjee. A. (2015). An analysis of citation pattern of the journal Opsearch 2013-14: a case study. *International Journal of Humanities and Social Science Invention, 4(7),* 39-44.

Chatterjee, A., & Maity, A.C. (n.d). A study on post-doctoral research in library and information science in India. *International Journal of Information Library & Society*, 54-65.

Evans, L.R. (2010). Gender and citation in two LIS e-journals: a bibliometric analysis of library and information research. *Library and Information Science Research Electronic Journal, 20(1)*, 1-18.

Ezema, I.J. (2016). Scholarly communication from authorship patterns in language research: evidence from citation analysis of language theses in Nigeria. *Ghana Journal of Development Studies, 13(2)*, 1-25.

Gaikwad, D., & Khokale, R. (2017). Citation analysis of Indian Journal of Traditional Knowledge: a study of citation pattern. *Information Resource Journal of Science & Engineering, 5(2)*, 11-17.

Garg, K.C., & Kumar, S. (2010). An analysis of the citation pattern of Indian science journals indexed by science. *Annals of Library and Information Studies, 57*, 365-372.

Garg, K.C., & Sharma, C. (2017). Bibliometrics of library and information science research in India during 2004-2015. *DESIDOC Journal of Library & Information Technology, 37 (3),* 221-227.

Jadhav, V., Khaparde, V., & Shelke, S. (2011). Citation analysis of University News Journal. *Goa University,* 681-690.

Kagra, S.K. (2017). A reference analysis of doctoral theses in history awarded in Kurukshetra University, Kurukshetra. *Imperial Journal of Interdisciplinary Research, 3(9).*

Keat, Y.C., & Kaur, K. (2008). Citation study of library and information science dissertations for collection development. *Malaysian Journal of Library &Information Science, 13(2),* 29-47.

Kousha, K., & Thelwall, M. (2006). Motivations for url citations to open access library and information science articles. *Scientometrics, 68(3)*, 501-517.

Kushkowski, J.D., Parsons, K.A., & Wiese, W.H. (2003). Masters and doctoral thesis citations: analysis and trends of a longitudinal study. *Lowa State University Digital Repository*, Retrieved from http://lib.dr.lastate.edu/refinst_pubs/30 on 2019 February 28.

Levitt, J.M., & Wall, M.T. (2009). The most highly cited library and information science articles: interdisciplinary, first authors and citation pattern. *Scientometrics, 78(1),* 45-67.

Mahajan, P. (2016). Citation pattern in Ph.D. theses in the field of philosophy: a study of Panjab University, Chandigarh. *Library Philosophy and Practice (e-Journal), 1409,* Retrieved from http://digitalcommons.unl.edu/libphilprac/1409 on 2019 March 3.

Maharana, R.K. (n.d). Growth and development of LIS research in India during 1993-2013: a bibliometric analysis. *Chinese Librarianship: an International Electronic Journal, 37,* 35-46, retrieved from www.iclc.us/clieJ/Cl37MD.pdf.on 2019 March 1.

Malliar, A. & Togia, A. (2016). An analysis of research strategies of articles published in library science journals: the example of library and information science research. *Qualitative and Quantitative Methods in Libraries (QQML), 5,* 805-818.

Mani, K.T. (2014). Authorship pattern and collaborative research Malaysian Journal of Library Science, 1996-2012. *Library Philosophy and Practice (e-Journal). 1177.* Retrieved from http://digitalcommons.unl.edu/libphilpracrac on 2019 February 28.

Mitchell, S.M., Lange, S., & Brus, H. (2013). Gendered citation patterns in international relations journals. *International Studies Perspectives, 14*, 485-492.

Nasir, J., & Kumar, D. (2015). Citation analysis of doctoral dissertations submitted between 1990-2010 in the Department of Economics, Aligarh Muslim University, Aligarh (India). *Chinese Librarianship: An International Electronic Journal, 32*, retrieved from http://www.icic.us/clics/cl32NK.pdf on 2019 March 2.

Nayak, S.C., & Patil, D.B. (2017). Citation analysis of Ph.D. theses in economics submitted to University of Gulbarga, Karnataka during 1984-2002. *Research Journal of Library Science, 5(3)*, 1-8.

Osman, I., Alemna, A.A. & Kumah, M.A. (2018). Analysis of doctoral thesis citation patterns: a case study of the Sam Jonah Library, Ghana. *Library Philosophy and Practice (e-Journal), 1692*. Retrieved from http://digitalcommons.unl.edu/libphilprac, 2019 February 28.

Park, T.K. (2006). Authorship from the Asia pacific region in top library and information science journals. *Asia –Pacific Conference on Library & Information Education & Practice,* 555-565.

Patra, S.K. (2014). Google scholar based citation analysis of Indian library and information science journals. *Annals of Library and Information Studies, 61,* 227-234.

Pradhan, D.K. (2015). Scholarly publication in library and information science in India: a citation analysis of international LIS journal.10th International CALIBER-2015 *HP University and IIAS Shimla, H.P. India, 12,* 244-253.

Ravichandran, M., & Sivaprasad, G, G. (2014). Bibliometric citations in Ph.D. theses in library and information science at Bharathidasan University, Tiruchi. *International Journal of Digital Library Services, 4 (3)*, 218-230.

Sahoo, J., Mundhial, S., & Mohunty, B. (2016). Indian doctoral research in social science with specific references to the library and information science. *Library Practice (eJournal), 1435*, retrievedfromhttp://digitalcommons.unl.edu/libphilprac, on 2019 March 1.

Simisaye, A.O., & Osinaike, A.B. (2010). Citation analysis of journal of library and information science (2004-2009). *Brazilian Journal of Information Science, 4(1),* 35-60.

Singh, J., Shah, T.A., & Gul, S. (2014). Growth and visibility of Lis journals: an analysis study. *Annals of Library and Information Studies, 61*, 193-227.

Singh, K.P., & Chander, H. (2013). Publication trends in library and information science: a bibliometric analysis of library management journal. *Emerald Library Management, 35 (3),* 134-149.

Singh, R.K., & Singh, A.P. (2017). Citation analysis of the international journal of library and information studies on the impact research of Google scholar: 2011-2015.*International Journal of Library and Information Studies, 7*(4), 155-161.

Somashekara, Y.L., & Kumbar, M. (2015). Citation analysis of doctoral theses: a study of physics theses submitted to three universities of Karnataka, India. *International Journal of Library and Information Studies, 5(1),* 20-33.

Teli, S., & Maity, A. (2015). DESIDOC Journal of Library & Information Technology: an analysis of citation pattern. *International Journal of Library and Information Studies, 5 (3)*, 97-100.

Tupe, S.K., & Khaparde, V. (2016). Scientometric analysis of Pearl: a journal of library and information science. *International Journal of Library and Information Studies, 6(4).*

Udo, A.J. (2018). A bibliometric analysis of research productivity of librarians published in library and information science journals available in academic libraries in IMO state, Nigeria, 2004-2013. *Research Journal of Library and Information Science, 2(1),* 15-21.

Wani, Z.A. (2008). Growth and development of library and information science literature. *Chinese Librarianship: an International Electronic Journal, 29,* 1-17, retrieved from http://www.iclc.us/clies/clz6wBJ.pdf.

Yang, K., Lee, J., & Choi, W. (2016). Publication and citation patterns of Korean LIS research by subject areas. *Malaysian Journal of Library & Information Science, 21(2),* 67-81.