Citation Analysis of References Appended in Doctoral Theses in Library & Information Science Submitted to Shodhganga

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Abstract

Citation analysis is one of the popular techniques of bibliometric study that aids scholars in the identification of core journals in their respective domain. The present study is based on 1399 citations used in the 10 doctoral theses of the library and information science department of University of Calcutta, Mangalore University, Manipur University, Mizoram University and Gauhati University that are deposited to Shodhganga from 2020. The purpose of this study is to determine the most favored information source, year-wise distribution of citations as well as to prepare ranking list of core Journals in library and information science based on citation frequency of that journal. Data were gathered and analyzed based on pre-determined criteria. Finally conclusion has been drawn from the data analyzed.

Keywords: Citation analysis; Library and Information science; Bibliometric study; Doctoral Theses.

INTRODUCTION

Citations are an important element of any research publication. It is the process by which scholars consult previous research and cite it in their study effort. Citation analysis is an important technique in the bibliometric study of literature that examines the relationship between the cited documents and can thus be used to indirectly measure document utilization. Citation analysis can be used to measure a journal's authorship pattern, year-by-year citation frequency, publication trend, and subject relationship. It also helps identify the core document for a specific subject domain. Management, education, information technology, and other interrelated disciplines are utilized in the practice of library and information science. To conduct qualitative research, a library and information science (LIS) researcher must identify the core documents in their field of study. Citation analysis assists librarians in more identifying the user's actual need. It is used by librarians to analyze their collection, assisting them in document selection and deselect ion in order to build an appropriate collection for their users. The current study's goal is to examine the citations used in Ph.D theses by University of Calcutta, Mangalore University, and Manipur University, Mizoram University and Gauhati University Library and Information

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Science researchers to determine which ones are the most common. Knowing which resources PhD students require and prefer will absolutely help a librarian provide us with a better selection of resources. 'Shodhganga' is the digital repository of Indian Electronic Theses and Dissertations setup by the Inflibnet Centre. Shodhganga stands for the research of Indian intellectual output stored in a repository hosted and maintained by the Inflibnet centre (http://shodhganga.inflibnet.ac.in/moredetails/newmoredetails/about.html).

LITERATURE REVIEW

Citation is defined by *Smith, Linda C*. (1981) as a relationship between the cited and citing documents. He discuss the development of citation analysis as a research method as well its application and future research prospects. With development of computer citation analysis has been improved through the production of printed indexes and availability of citation data in machine readable form. *Nishtha, Anilkuma & Shya, Rajaram* (2013) examines the citations used by doctoral students of physical research laboratory and discovered that majority of the researchers used e-resources,. Journal articles are most preferred followed by books. Their study aids better understanding and management of library resources by librarian. *Kumari, K kusuma & Doraswamy, M*. (2014) conducted a similar study with PhD theses in civil engineering to identify the source of information , authorship pattern, publication pattern and the core journals of civil engineering. Their result reveal that journals are most favoured source of information for civil engineers, most of the journals are co-authored and published in between 1981 and 2010. *Ramanjaneyulu H.* (2015) revels that citation analysis is one of the major technique of bibliometric studies. It accesses how often a document is used and relationship between the document and author. It has now became a widely used technique for determining the impact, authorship pattern, publication trend. It is commonly used method to find out the core journal in concerned subject. *M. Thamaraiselvi et al.* (2016) conducted a citation analysis of 6 PhD theses in library and information science to identify the most cited source of information, authorship pattern, rank list of core journal and their country wise distribution. He found that Journals by single author are most popular source of information.

OBJECTIVE OF THE STUDY

The present study is conducted with following specific objectives:

- To identified the most preferred source of information and their range of publication year.
- To know the number of citations used by the research scholars in LIS.
- To identify the frequency of citation and prepare a rank list of core journal of library and information science.

METHODOLOGY

For the present study data has was collected from 10 PhD thesis submitted by the department of Library and Information Science University of Calcutta, Mangalore University, Manipur University, Mizoram University and Gauhati University to Shodhganga digital repository from 2020. The references from theses were collected, tabulated and analyzed using Ms-Excel.

RESULTS AND DISCUSSION

Table 1: Research areas of doctoral theses in LIS and the year of submission

Sl. No.	Name of Universities	No. of Theses Uploaded	Year of Submission	Research Area
1	University of Calcutta	1	2020	Assessing influence of journals and researchers in scholarly communication
2	Mangalore University	1	2020	Use of N-List resources by faculty and students of Post Graduate centers affiliated to Mangalore University
3	Manipur University	2	2020	Modernizing college libraries with E-Resources under N-List programme in Manipur
				Preserving the Past Heritage to create the future in digital age: Role of Libraries, Archives, Museums and Archaeological institutions in Manipur

4	Mizoram University	4	2020	Bibliometric study of Doctoral Dissertations in Library and Information science in North East India during 2006-2015
				Use of Social Networking sites by teachers and students of Colleges in Aizawl: an Evaluative study
				Library Automation Skills of College Librarians using SOUL 2.0 in North East India
				Information Literacy skills among PG Students of Social Sciences of Mizoram University and Tezpur University: A Comparative study
5	Gauhati University	2	2020	Use of ICT in the Libraries of Medical Institutions in North East India: An Analytical Study
				Ontology on Traditional Dances of Assam for the Semantic Web with Special Reference to the Dances of Rabha Community

Table 1 show that Mizoram University had uploaded the maximum numbers of theses i.e. 4 in number followed by Manipur and Gauhati Universities having 2 each. Mangalore University and University of Calcutta uploaded the least number of theses having 1 each. Different areas of LIS were covered in the doctoral theses of these universities. Maximum theses were submitted in 2020.

Table 2: From wise distribution of cited documents of theses of the 5 Universities

Sl. No.	Form of Cited Documents	Calcutta	Mangalore	Manipur		Mizoram				Gauhati	
1	Journal Citations	206	46	44	84	83	76	34	112	142	40
2	Book Citations	30	17	5	10	21	7	0	13	4	31
3	Web based E-Resources	7	13	22	18	38	20	2	60	39	56
4	Seminar/Conference Proceedings Citations	3	10	18	5	3	5	0	10	3	27
5	Reports Citations	1	2	2	0	0	0	0	0	0	0
6	Theses/Dissertations Citations	0	0	3	4	4	0	0	4	2	0
7	Dictionary	0	2	0	0	0	0	0	0	0	1
8	Manuscripts	0	0	0	3	0	0	0	0	0	0
9	Souvenirs/Bulletins/Guidebooks	0	0	0	7	0	0	0	0	0	0
-	Total	247	90	94	131	149	108	36	199	190	155

The above table shows that Mizoram University theses have the highest number of journal citations (149 and 108, 36, 199). Gauhati University theses have the highest number of Web based E-Resources (39 and 56). University of Calcutta theses have the highest number of book citations (30 and 17). Reports, theses, Newaletters are the least cited documents. University of Calcutta thesis has the highest number of cited documents followed by thesis of Mangalore University.

Table 3: Form wise distribution of total cited documents

Sl. No.	Form of Cited Documents	Total No. of Citations	Cumulative Citations	Percentage	Cumulative Percentage
1	Journal Citations	867	867	61.97	61.97
2	Book Citations	138	1005	9.86	71.83
3	Web based E-Resources	275	1280	19.65	91.49
4	Seminar/Conference Proceedings Citations	84	1364	6	97.49
5	Reports Citations	5	1369	0.35	97.85
6	Theses/ Dissertations Citations	17	1386	1.21	99.07
7	Dictionary	3	1389	0.21	99.28
8	Manuscripts	3	1392	0.21	99.49
9	Souvenirs/Bulletins/ Guidebooks	7	1399	0.5	100
	Total	**1399**		**100**	

Form of Citations

- 1 Journal Citations
- 2 Book Citations
- 3 Web based E-Resources
- 4 Seminar/Conference Proceedings Citations
- 5 Reports Citations
- 6 Theses/ Dissertations Citations
- 7 Dictionary
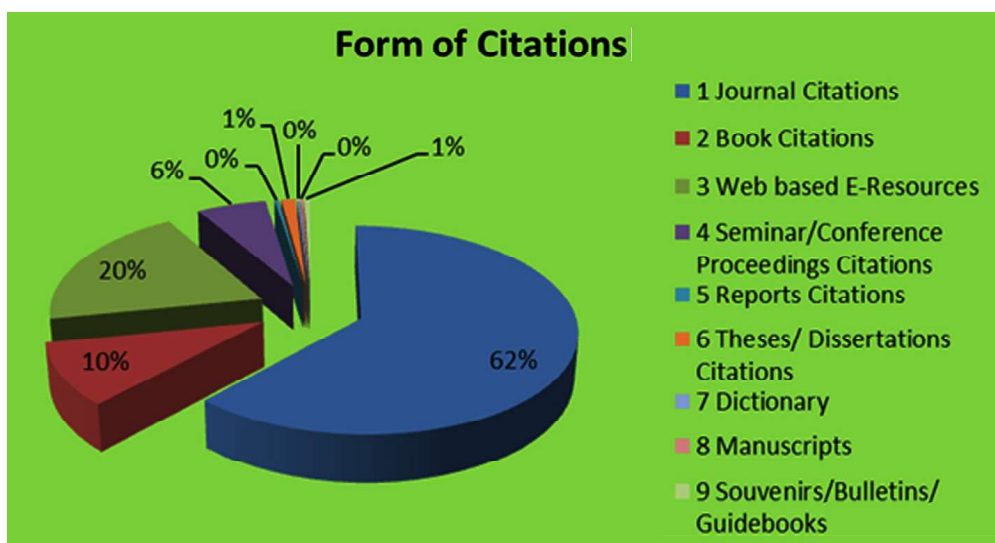- 8 Manuscripts
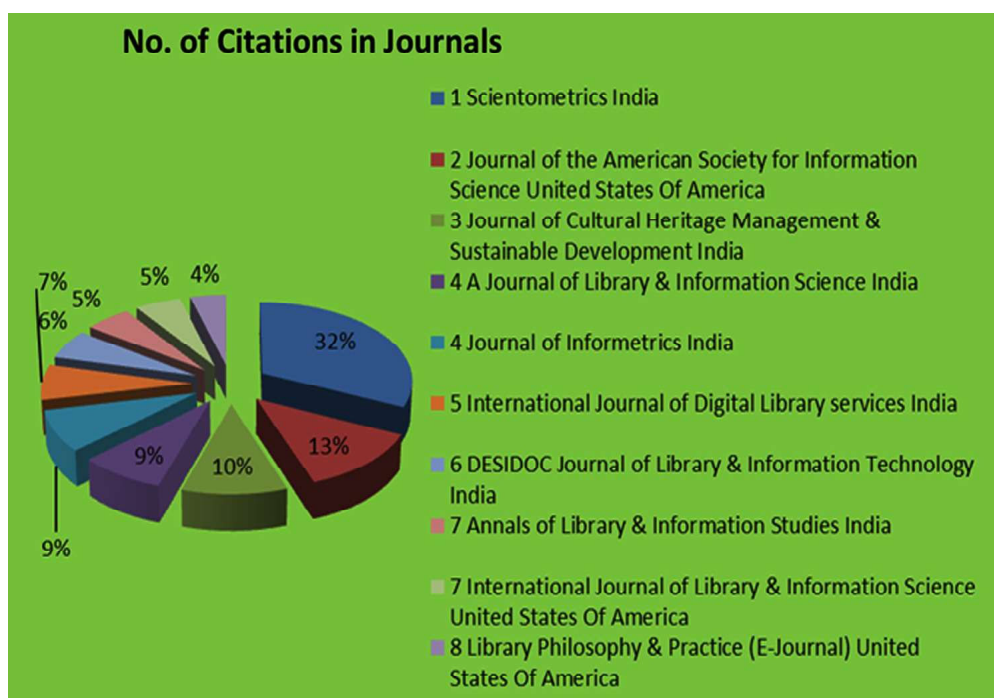- 9 Souvenirs/Bulletins/ Guidebooks

Table 3 and fig. 1 clearly depicts that maximum cited documents are the journals (61.97%) followed by Web based E-Resources (19.65%), Books (9.86%) and Seminar/Conference Proceedings Citations (6.00%). The least cited documents are the Newsletters followed by theses/dissertations and reports. This shows that researchers in the field of LIS mainly concentrate on printed journals for collecting information. Books are also considered as an important source of information in the research work. E-resources are found to be referred less compared to printed journals and books.

Table 4: Ranking of journals by frequency of citations

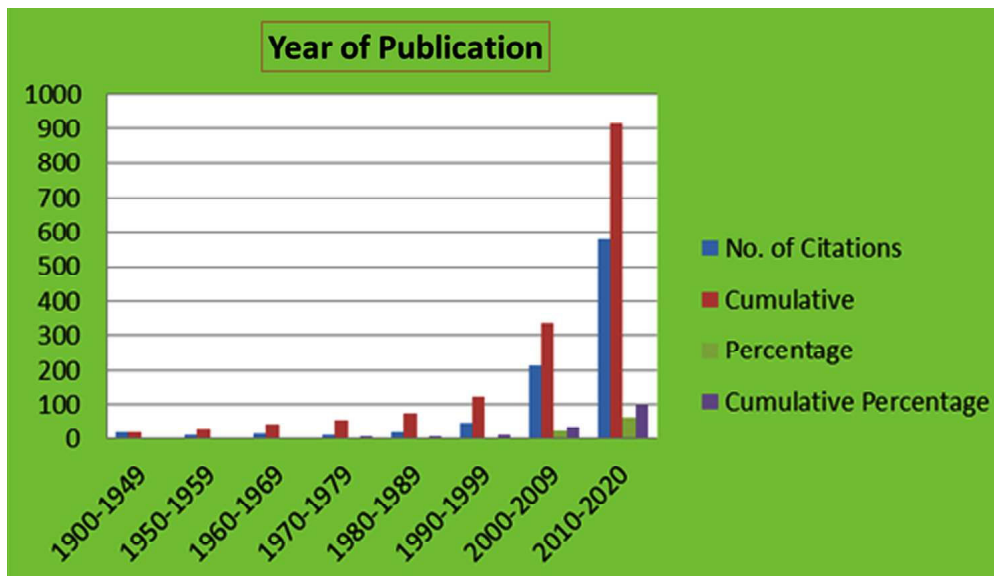| Rank No.	Name of Journal	Country	No. of Citations	Cumulative Citations	Percentage	Cumulative Percentage
1	Scientometrics	India	53	53	31.92	31.92
2	Journal of the American Society for Information Science	United States of America	21	74	12.65	44.57
3	Journal of Cultural Heritage Management & Sustainable Development	India	17	91	10.24	54.81
4	A Journal of Library & Information Science	India	14	105	8.43	63.25
4	Journal of Informetrics	India	14	119	8.43	71.68
5	International Journal of Digital Library services	India	12	131	7.22	78.91
6	DESIDOC Journal of Library & Information Technology	India	10	141	6.02	84.93
7	Annals of Library & Information Studies	India	9	150	5.42	90.36
7	International Journal of Library & Information Science	United States of America	9	159	5.42	95.78
8	Library Philosophy & Practice (E-Journal)	United States of America	7	166	4.21	100

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It is evident from Table 4 and Fig. 2 that Scientometrics is the most cited journals (31.92%) and is ranked 1st followed by Journal of the American Society for Information Science (12.65%). Journal of Cultural Heritage Management & Sustainable Development (10.24%) is ranked 3rd. The other journals which were cited frequently are a Journal of Library & Information Science (8.43%), Journal of Informetrics (8.43%), International Journal of Digital Library services (7.22%), DESIDOC Journal of Library & Information Technology (6.02%), Annals of Library & Information Studies (5.42%), International Journal of Library & Information Science (5.42%) etc. Also it is evident that Indian Journals are cited mostly compared to Indian Journals.

Table 5: Distribution of citation according to year of publication of document referred

Year Citations	No. of Citations	Cumulative	Percentage	Cumulative Percentage
1900-1949	19	19	2.07	2.07
1950-1959	10	29	1.09	3.16
1960-1969	14	43	1.52	4.68
1970-1979	12	55	1.3	5.99
1980-1989	19	74	2.07	8.06
1990-1999	47	121	5.12	13.19
2000-2009	215	336	23.44	36.64
2010-2020	581	917	63.35	100
Total	**917**		**100**	-

The above table and figure shows that maximum numbers of documents cited were published during 2010-2020 accounting to 63.35% followed by documents published during 2000-2009 accounting to 23.44%. Least cited documents were published during 1990-1999 (5.12%). 2.07% of the documents cited were published during 1980-1989 and 1900-1949. Also out of the total of 1399 citations, 917 citations had their publication date and the rest i.e. 482 citations had no publication date most of which were website citations.

RESULTS

From the above analyzed data following findings has been drawn out

1. Most preferred source of information by research scholars in library and information science is journals which accounts for 61.97% (867) of total bibliographical sources, (From Table 3) and most of the cited materials used by the researchers in their theses was published in between 2010-2020. (From Table 5)

2. The Journals articles used by the author are from different journals. Scientometrics is most cited journal by Library and Information Science researchers with 53 i.e. 31.92% of total journal citation in 10 theses examined. Second place is occupied by Journal of the American Society for Information Science, which has been cited 21(12.65%) times and in third place by Journal of Cultural Heritage Management & Sustainable Development which has been cited 17(10.24%) times by the researches. (From Table 4)

3. The areas covered in the doctoral theses are: (i) Library Automation Skills (ii) Use of Social Networking sites (iii) Bibliometric study of Doctoral Dissertations (iv) Use of N-List resources (v) Use of ICT in the Libraries of Medical Institutions (vi) Preserving the Past Heritage to create the future in digital age (vii) Ontology on Traditional Dances of Assam for the Semantic Web with Special Reference (viii) LIS education. Most of the theses were submitted in the year 2020.

CONCLUSION

Citations are increasingly used as a performance indicator in the context of research evaluation. It acts as a pathfinder to gauge the impact of scientific literature. Citation analysis of theses can be used a tool for evaluating usage statistics of the library collection for research purposes. Although it has certain limitations but it can quantitatively measure the nature of resources being used by researchers thus allowing librarian to meet the actual user need. Specifically this study has provided some useful information about the core journals used by researchers in Library and Information science field.

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