

Citation Analysis of References appended in Doctoral Theses In Library & Information Science Submitted to Shodhganga by Guahati University

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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 2671 citations used in the 21 doctoral theses of the library and information science department of Guwahati University(GU) that are deposited to Shodhganga from 2016 to 2020. The purpose of this study is to determine the most favoured information source, authorship pattern, year-wise distribution of citations as well as to prepare a 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, bibliometric study, Library and Information Science, Core Journals

Introduction

Citations are an integral part of every research publication. It is the process of researcher consulting past research and citing it in their study effort. Citation analysis is one of the important techniques of bibliometric study of literature that examines the relationship between the cited document thus can be used to measure document utilization indirectly. A journals authorship pattern, year-wise citation frequency, publication trend, subject relationship all can be measured using citation analysis. It also aid in the identification of the core document for a certain subject domain. Library and Information Science is a multidisciplinary field that incorporates management, education, information technology, and other interrelated disciplines into its practice. It is necessary for a library and information science(LIS) researcher to identify the core documents in their field of study to carry out qualitative research work. Citation analysis helps librarians to identify the actual need of the user more accurately . It is used by librarians for evaluation of their collection which assists them in selection and deselection of documents to build a appropriate collection for their users The purpose of the present study is to analyze the citations used in the PhD theses by the researchers of Library and Information science of Guahati University to know the most

preferred literature by the Researchers in the field of Library and Information Science. Knowing which resources PhD students requires and preferred most will undoubtedly assist a librarian in providing them with a better choice of materials

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) reveals 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 become 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 etal.**(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 date
- To find out the nature of authorship pattern
- 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 21 PhD thesis submitted by the department of Library and information Science of Guwahati University to Shodhganga digital repository from

2016 to 2020. The references from those theses were collected, tabulated and analyzed using Ms-Excel.

Discussion

Table 1. Year wise distribution of theses

S.No	Year	No. of theses	Percentage
1	2016	7	33.34
2	2017	8	38.09
3	2018	5	23.81
4	2019	1	4.76
5	2020	0	0
6	Total	21	100

Table No.1 shows that total number of PhD theses submitted to Shodhganga by Department of Library and Information Science of GU from 2016 to 2020 which is 21. In the year 2017 38.09% i.e. 8 theses was submitted followed by 2016, 33.34 (7 in number) , 2018 23.81% Only 1 theses was submitted in the year 2019 and 0 number of thesis was submitted in 2020.

Highest number of theses were submitted in 2017 accounting for 38% of all theses submitted while the lowest number were submitted in 2019 accounting for 5% of all theses submitted.(from figure No.1)

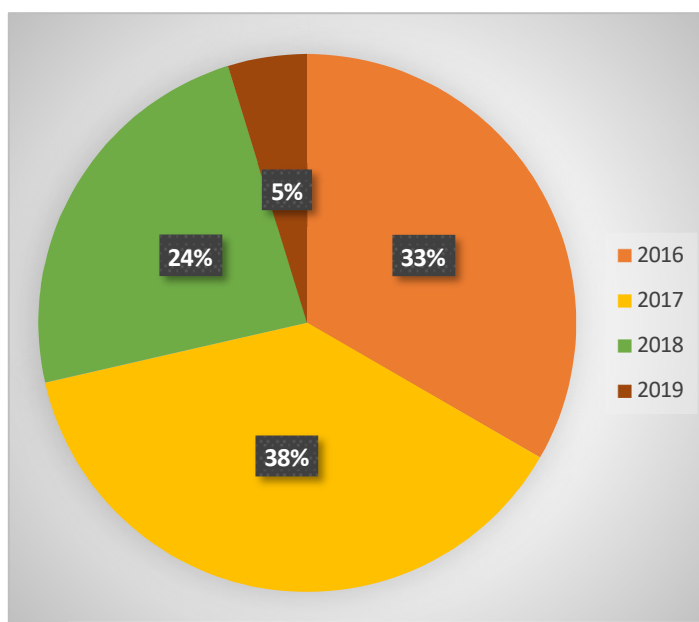
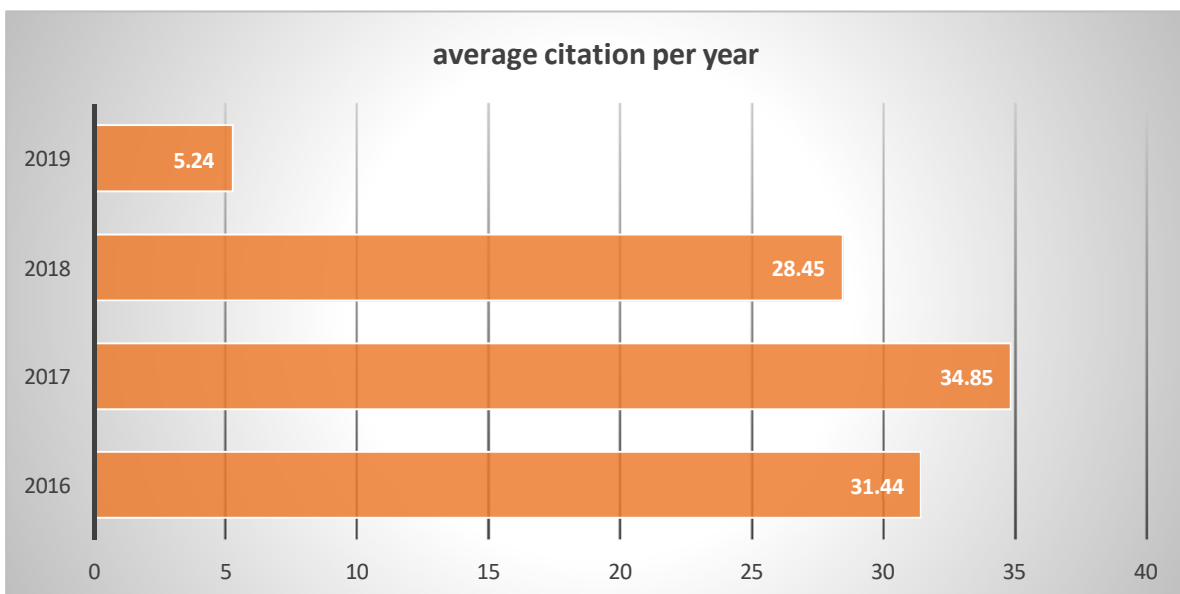


Figure No.1. Year wise distribution of theses

Table No.2 Distribution of average number of citation per theses

S.No	Year	No. of theses	Total no of citation	Average no of citation
1	2016	7	840	120 (31.44)
2	2017	8	931	116.37 (34.85)
3	2018	5	760	152 (28.45)
4	2019	1	140	140 (5.24)
5	2020	0	0	0
6	Total	21	2671	127.19 (100)

Data in **table no.2** shows that out of total 21 theses 34.85(120) average number of citation per theses were referenced in the year 2017, which is highest among all followed by 31.44(120) in 2016, 28.45(154) in the year 2018, 5.24(140) in 2019 and 0 no of citations in the year 2020.

**Figure No.2. Average citation per year**

So it is clear from the **figure no.2** that maximum 34.85% of average number of citation was used by researchers in the year 2017 and minimum 5.24% of average citation was used in the year 2019.

Table No.3. Distribution of citation according to year of publication of document referred

S.No	Year	No. of citation	Percentage
1	Before 1990	172	6.43
2	1990-1995	189	7.07
3	1996-2001	367	13.74
4	2002-2007	675	25.27
5	2008-2013	819	30.66
6	2014-2019	432	16.17
7	Unidentified	17	0.63
8	Total	2671	100

The distribution of citation by year of publication is shown in **Table No.3**. The table shows that maximum number of citation used by the researcher in their doctoral these was published in between 2008 and 2013 accounting for 30.66%(819) of total citation. It is followed by the year 2002-2007 which received, 25.27%(675), 2014-2019 which received 16.17% (432) ,1996-2001 which received 13.74(367), 1990-1995, 7.07(189) and the least number of citation used by researcher published before 1990. 0.63(17) citation used by the scholars are without publication date.

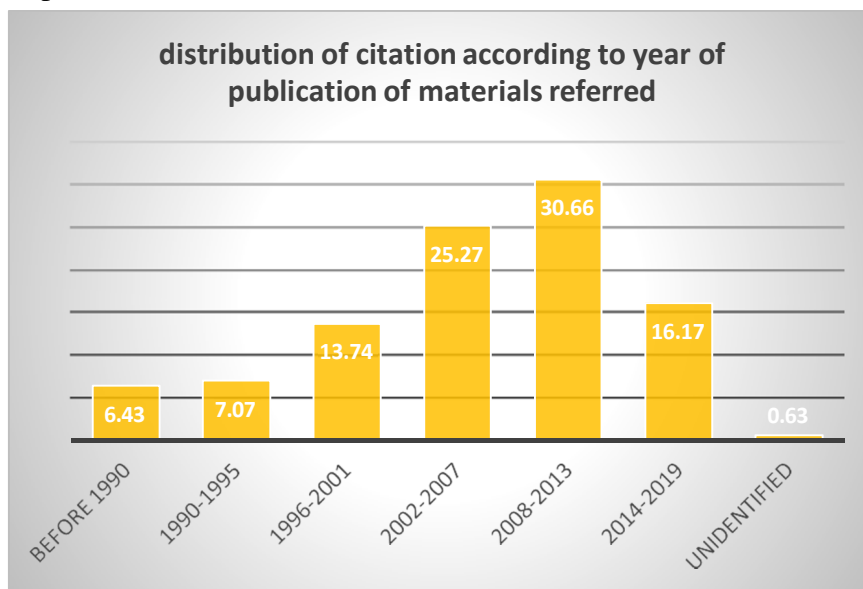


Figure No.4. Distribution of citation according to year of publication of materials referred

Table No. 4 Authorship pattern of cited materials

S.No	No. of author	No. of citation	Percentage
1	Single author	1446	54.13
2	Two author	714	26.73
3	Three author	261	9.77
4	More than three author	56	2.09
5	Without author	194	7.26
6	Total	2671	100

From table No.4 it is evident that out of 2671 citation mentioned in theses, 54.13(1446) number of citation have single author and the citation with two authors is 26.73(714) followed by 9.77(261) by three authors. 2.09(56) citation are found to have more than three author which is the lowest of all and 7.26(194) citations are found without any author.

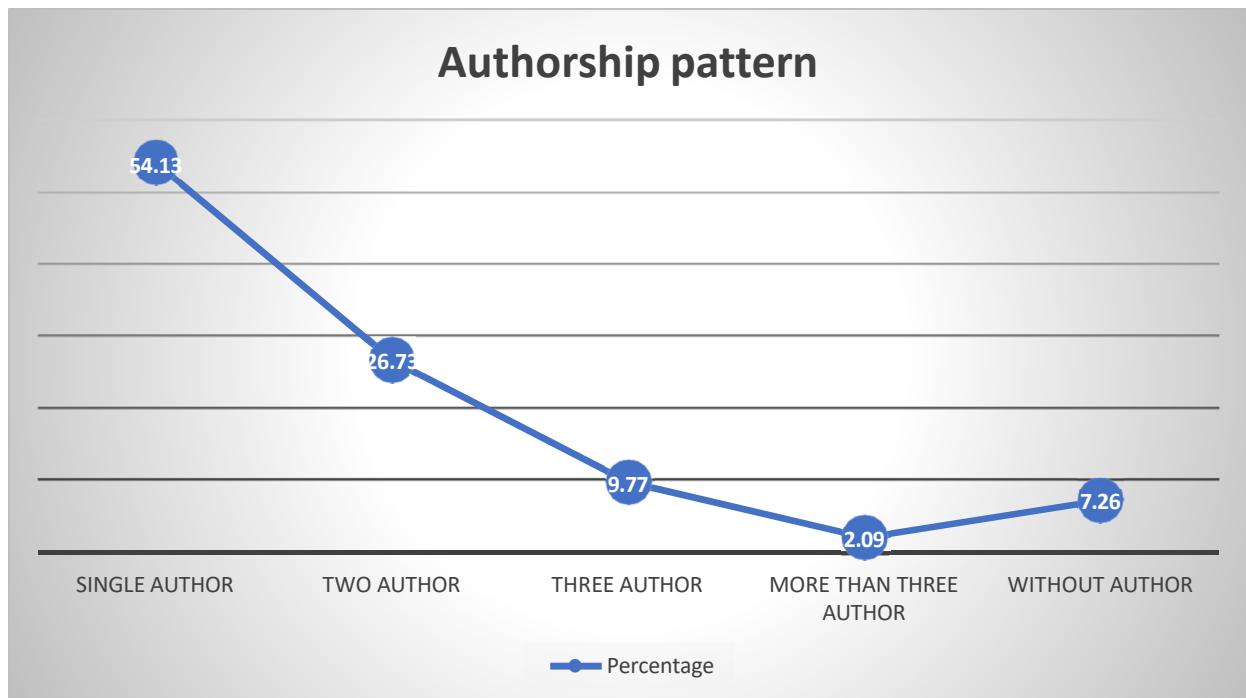
**Figure No.4. Authorship pattern of cited materials**

Table No.5. Distribution of cited materials in LIS theses

S.No	Source of information	No. of citation	Percentage	Cumulative citation	Cumulative percentage
1	Journal	1308	48.97	1308	48.97
2	Book	508	19.02	1816	67.99
3	Website	603	22.58	2419	90.58
4	Conference proceeding/ seminars	203	7.60	2622	98.13
5	Theses/dissertation	26	0.97	2628	99.14
6	Other	23	0.86	2671	100
7	Total	2671	100		

The distribution of citation according to various bibliographical sources is shown in the **table no.5**. The table shows that Journals contributes to the highest number of citations used by researcher in Library and Information Science accounting 48.97%(1308 in number), which is followed by websites with 22.58%(603), Books with 19.02%(508), conference proceedings/ seminars with 7.60%(203) and theses/dissertation, with least number of citations used by researchers which is 0.98%(26). Other sources accounts for 0.86%(23) of citations in their theses. As it can be seen in **figure no.5** the most preferred source of information among the library and information science scholars is Journals.

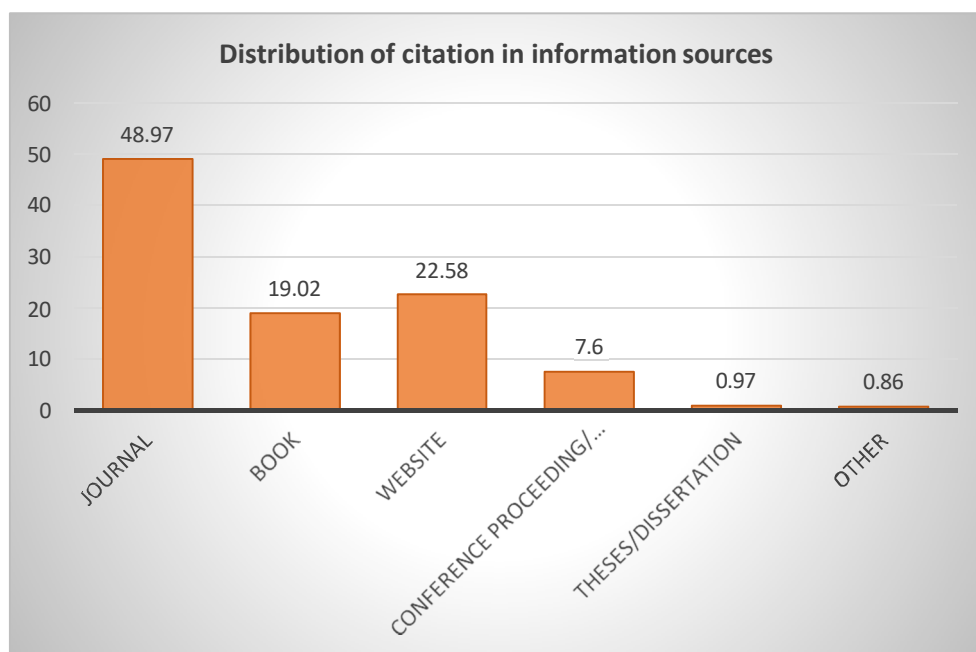
**Figure No.5. Distribution of cited materials in LIS**

Table No. 6. Rank list of core journals of library and Information science cited in thesis

S.No	Journal	No. of citation	Percent age	Cumulative citation	Cumulative percentage
1	DESIDOC Journal of Library & Information Technology	57	4.35	57	4.35
2	Annals of library and Information studies	45	3.44	102	7.79
3	Library Review	39	2.98	141	10.77
4	Library Philosophy and Practice	38	2.90	179	13.67
5	Library Management	34	2.59	213	16.26
6	The electronic library	32	2.45	245	18.71
7	Program	28	2.14	273	20.85
8	ASLIB proceeding	26	1.98	299	22.83
9	Journal of Academic Librarianship	26	1.98	325	24.81
10	ILA bulletin	25	1.92	350	26.73
11	New library world	21	1.61	371	28.34
12	Journal of Library Administration	21	1.61	392	29.95
13	Collection Building	19	1.45	411	31.4
14	Library Hi-Tech	15	1.14	426	32.54
15	Online Information Review	15	1.14	441	33.68
16	College and Research Library	14	1.07	455	34.75
17	Webology	14	1.07	569	35.82

18	Library Trends	14	1.07	483	36.89
19	Scientometric	13	0.99	496	37.88
20	Library Progress	13	0.99	509	38.87
21	ALA bulletin	12	0.91	521	39.78
22	Serial Librarian	11	0.85	532	40.63
23	D-Lib	11	0.85	543	41.48
24	IASLIC bulletin	11	0.85	554	42.33
25	Library Technology Report	11	0.85	565	43.18
26	SRELS Journal of Information Management	10	0.77	575	43.95
27	Library Herald	10	0.77	585	44.72
28	Interlending and Documentation supply	9	0.68	594	45.4
29	Information Technology and Libraries	8	0.62	602	46.02
30	IFLA Journal	8	0.62	610	46.64
31	The Library Quarterly	7	0.54	617	47.18
32	Journal of Education for Library and Information Science	7	0.54	624	47.72
33	Journal of Librarianship and Information Science	6	0.46	630	48.18
34	Journal of Library and Information Science	6	0.46	636	48.64
35	Journal of Indian Library Association	6	0.46	642	49.1
36	LIBRI	5	0.38	647	49.48
37	Journal other than core Journals	661	50.52	1308	100
	Total	1308	100		

Form **table No.7** it is clear that the cited document are scattered in 456 different Journals. Out of 456 Journal DESIDOC Journal of library and information Technology is cited highest by Library and Information Science scholars of GU accounting for 4.35% of total citation i.e. it has been cited 57 times. Followed by annals of library and information studies that has been cited 45 times, Library Review has been cited 39 times, Library philosophy and practice cited 38 times. 50% of total citation(661 citation) that are cited in theses are from journals other than the core journals of library and information science. Those journals are cited for 1 to 4 times in 21 these that have been studied.

Findings

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 48.97%(1308) of total bibliographical sources, (from table no.5) and most of the cited materials used by the researchers in their theses was published in between 2008-2013. (from table no.3)
2. Single author accounts for 54.13%(1446) of the total citation used. That's means Single authorship pattern is dominant over collaborative authors.
3. The Journals articles used by the author are from 456 different journals. DESIDOC Journal of Library and Information Technology is most cited Journal by Library and Information Science researchers with 57 i.e. 4.35% of total journal citation in 21 theses examined. Second place is occupied by Annals of Library and Information studies ,which has been cited 45(3.44%) times and in third place by Library review which has been cited 39(2.98) times by the researches.(from table no.6)

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.

References

Aknes, Dag W., Langfedt, Liv and Wouters, Paul(2019). Citations, citation indicators and research quality: an overview of basic concept and theories. *Sage open*,9(1).1-9. Retrieved from https://www.researchgate.net/publication/330945189_Citations_Citation_Indicators_and_Research_Quality_An_Overview_of_Basic_Concepts_and_Theories

Angammana, A.M.S., Jayatissa, L.A., (2016). A bibliometric study of postgraduate theses in library and information science: With special reference to University of Kelaniya and University of Colombo, Sri Lanka. *Journal of the University Librarians Association of Sri Lanka*, 19(1), 32-53.

<http://doi.org/10.4038/jula.v19i1.7874>

Boopathi, P. & Gomathi, P.(2019). Scientometric analysis of library and information science articles during the year 2008-2017 using web of science.*Indian journal of information sources and service*,9(1).12-15. Retrieved from

<http://www.trp.org.in/wp-content/uploads/2019/05/MANLIBNET-IJISS-Vol.9-No.S1-February-2019-pp.-12-15.pdf>

Buttler, Lois(1999). Information sources in library and information science doctoral research.*Library & information science research*,21(2).227-245.

[doi.org/10.1016/S0740-8188\(99\)00005-5](http://doi.org/10.1016/S0740-8188(99)00005-5)

Kumari, K kusuma & Dr. Doraswamy, M. (2014). Citation analysis of PhD theses in civil engineering submitted to Sri Venkateshwara university, Tirupati, Andhra Pradesh. *International Journal of digital library service*,4(1). 83-91. Retrieved from

http://www.ijodls.in/uploads/3/6/0/3/3603729/kusuma-article-ph.d_83-91.pdf

Kushkowski, Jeffrey D., Parsons, Kathy A. and Wises, William H.(2003). Masters and doctoral theses citation analysis and trends of a longitudinal study.*Portal:libraries and the academy*,3(3).459-479.

http://lib.dr.iastate.edu/refinst_pubs/30

Meho, Lokman I.(2007).The Rise and the rise of citation analysis.*Physics world*, 20(1).32. Retrieved from

https://www.researchgate.net/publication/28805884_The_rise_and_rise_of_citation_analysis

Thamaraiselvi, M. Manthiramoorthi, M. and Manikandan, A.(2016). Citation Analysis of Doctoral Theses of Library and Information Science Submitted to the Alagappa University with Special

References of Shodhganga Website. *ScieXplore: International Journal of Research in Science*,3(1). 41-46. Retrieved from

<https://www.researchgate.net/publication/317268802>

Nishta, Anil kumar & Shyama, Rajaram(2013). Theses submitted by doctoral student of ohysical research laboratory,India. *Serial review*, 39(2).114-120. Retrieved from

<https://www.tandfonline.com/doi/abs/10.1080/00987913.2013.10765503>

Ramanajaneyulu,H.(2015).PhD theses submitted to Sri krishnadevaraya university, Ananthapuramanu during 1982- 2009. *Indian streams research journal*, 5(8)

DOI:10.9780/22307850

Smith, Linda C.(1981). Citation analysis. *Library trends*,30(1). 38-108. Retrieved from

<http://hdl.handle.net/2142/7190>

Shodhgana: A reservoir of Indian thesis. Retrieved from

<https://shodhganga.inflibnet.ac.in/>

Sherri, Edward(1999). Citation analysis as a collection development tool: A bibliometric study of polymer science thesis and dissertation. *Serial review*,25(1).11-20

doi.org/10.1080/00987913.1999.10764479

Waugh, C keith & Ruppel, Margie(2004).Citation analysis of dissertations. Theses and research paper referenced in workforce education and development. *Journal of academic librarianship*,30(4).267-284. Retrieved from

https://www.academia.edu/12357624/Citation_analysis_of_dissertation_thesis_and_research_paper_references_in_workforce_education_and_development