

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

2021

Citation Analysis of Doctoral Theses Submitted During 2007 to 2016 in Pakistani Library Schools

Syed Habib Akhter Jaffri

Pakistan Scientific & Technological Information Centre (PASTIC), habibjaffri@gmail.com

Khurram Shahzad

GC University, Lahore, knoor19april@yahoo.com

Muhammad Tariq Dr.

COMSATS University, Lahore Campus, tariqnajmi@cuilahore.edu.pk

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Jaffri, Syed Habib Akhter; Shahzad, Khurram; and Tariq, Muhammad Dr., "Citation Analysis of Doctoral Theses Submitted During 2007 to 2016 in Pakistani Library Schools" (2021). *Library Philosophy and Practice (e-journal)*. 6004.

<https://digitalcommons.unl.edu/libphilprac/6004>

Citation Analysis of Doctoral Theses Submitted During 2007 to 2016 in Pakistani Library Schools

- 1) **Syed Habib Akhter Jaffri**, Principal Librarian, Pakistan Scientific & Technological Information Centre (PASTIC), Quaid-Azam University Campus, Islamabad
e-Mail: habibjaffri@gmail.com
- 2) ***Khurram Shahzad (Corresponding Author)**, Librarian, Government College University, Lahore
e-Mail: khurram@gcu.edu.pk
- 3) **Dr. Muhammad Tariq**, COMSATS University, Lahore Campus
e-Mail: tariqnajmi@cui.edu.pk

Abstract:

Citation analysis means the analysis of the citation or reference which are available in reference section of the any research like journals article, reports, and MPhil, PhD theses or any communication, Citation analysis can be used as a tool for knowing reading habits of users in all field of knowledge. It is also helpful to librarian for understanding the interesting valuable literature of research scholar and to recognize the core journals of any field of knowledge. The primarily concerns of this research are to evaluate of the PhD theses which are submitted in the Pakistani library schools. The main objectives of the study were to reveal citations according to types of documents, to know geographical affiliation of publication, to find out authorship patterns and to know citation trends in journals. This study shows the worth of LIS research produced in Pakistan, trend of research in LIS community and which type of information format was popular among the LIS researchers. Total 1821 references were evaluated in this study. 374 Books were cited; the data showed that single author books were 258, co-authors 85 and multiple authors 31. 63 Theses were cited. 93 Websites were cited having different domains. 56 Conference proceedings were cited. 103 Reports were cited from different countries mostly used from USA (40.7%), Pakistan (33.9%) and France (4.8%). 1114 International Journal citation were found these journals were published different countries like USA, UK, Netherlands etc. The most cited journals were found JCR listed. In the case of Pakistani journals mostly from X and Y category journals, it means that Pakistani LIS researchers used high ranking references in their research.

Key Words: Citation Analysis of Doctoral Theses, Research Produced by LIS Pakistani Schools

Introduction:

The research and development are the main activities in all scientific and social sciences fields, particularly in the field of library and information Science (LIS). A significant number of publications are produced by LIS researchers on different features of libraries and their functions (Jabeen, Yun, Rafiq, & Jabeen, 2015). Pritchard used the first time term bibliometric in 1969. He described bibliometrics as under:

“The definition and purpose of bibliometrics is to shed light on the process of written communication and of the nature and course of a discipline (in so far as this is displayed through written communication) by means of counting and analyzing the various facets of written communication”(Dutta, 2014)

Bibliometrics permits the gauging of research publication, researcher can measure these values through international collaboration, covering subject, influence forms of production, and particular publication style over time (Erfanmanesh, Didegah, & Omidvar 2010). Citation analysis research of MA dissertations in the field of Library and Information Science (LIS) has been published in 2010 in Iran (Riahinia, 2010). In this research, researcher used 259 dissertations of five different universities of Tehran, submitted during five years (2003-2008). It is observed the research population preferred the book rather than journals. Persian students mostly used Farsi e-resources rather than English e-resources. Author conclude research with this statement “Overall, the study showed that in Iran the main format for LIS students for information is the print format, and if they have access to electronic formats, they prefer journal articles rather than e-books.”

The study of citation analysis of MLIS dissertations was conducted in 2008 (Keat & Kaur, 2008) that study was conducted for collection development of the university of Malaya in Kuala Lumpur Malaysia. The researcher observed 40 MLIS thesis submitted during the 2000- 2005, in this study the year of publication; author; source title; bibliographic format; language; subject category; and places of publications were examined in the cited references. Used journals in the research of MLIS dissertations was gauged by the Journal Citation Report (JCR) for finding the impact factor of journals. The researcher observed that the electronic resources used are increased. Tilak Maharashtra University India awarded the PhD on citation analysis study entitled “A citation analysis of doctoral dissertation in library and information science” to Phugnar Prashant

Laxmanrao (Phugnar, 2014) in this research the researcher was analyzed 16313 citations from 124 thesis by this criteria, author ship (co-author, Single author and corporate author), use of internet resources, publisher ranking (prominent publishers), year of Publication, Impact factor of journals and etc. Co-word analysis research of doctoral Dissertations of LIS in China have been published by the five (5) authors in 2012. (Zong et al., 2012). In this research the Co-word analysis and cluster analysis techniques were used for the 17 years (1994 -2011) published doctoral research. Researcher informed after the interpretation and analysis of data the Wuhan University was produced highest no. of PhDs in the LIS subject. The topics of highly focused in doctoral research during the observed period is digital library semantic web, semantic search, ontology, information resource management, electronic government, knowledge innovation, knowledge management, knowledge sharing, knowledge organization, network, information need information service, and information resource.

Many studies have been conducted through the bibliometric data analysis in the Pakistan in different disciplines like agriculture, bio-technology and Pharmacy but unfortunately in the discipline of library and information science has very few researches were published according to Naseer (Naseer & Mahmood, 2009) first bibliometric research published in Pakistan by Dr. Khalid Mahmood in 1996 entitled “Library and information Services in Pakistan : A review of articles published in foreign journals” in this study Dr. Mehmood informed about the statistical and subjective review status of the LIS published work in foreign journals by Pakistani authors. In 1999 one more research brought out by Anwar Saeed in this research author observed the collected 251 items from LISA- PLUS. Dr. Mirza Muhammad Naseer performed a vital role for published bibliometrics study after completion his PhD. Some titles of his publications are as under:

1. Use of bibliometrics in LIS research
2. Subject dispersion of LIS research in Pakistan
3. Author’s productivity and co-authorship patterns in Pakistani LIS literature
4. Applicability of Lotka’s law to Pakistani LIS authors
5. Library and information science research in Pakistan: Bibliographic control, bibliometrics analysis and issues
6. Growth and Formats of LIS literature Produced in Pakistan
7. Literature of library and information science (LIS) produced in Pakistan: 1991-2008

8. Bio-bibliometric study of Dr. Khalid Mehmood's Contributions to LIS Field in Pakistan

Theses or dissertations submission is a basic requirement for awarding degree of MA, MPhils, and PhD to research scholars, in this connection many national and international studies were conducted for evaluating the research productivity of students on the basis of bibliometric study (content analysis/ citation analysis). Israel conducted the research "Citation Analysis of M.A. Theses and Ph.D. Dissertations in Sociology and Anthropology: An Assessment of Library Resource Usage" at Hebrew University of Jerusalem, Mt. Scopus Campus, 91505, Israel. (Rosenberg, 2015). In India many researches have been done for evaluating the research productivity of PhD scholars like the entitled "A citation analysis of doctoral dissertation in library and information science accepted by the universities in Western India." (Phugnar, 2014). This research population was the LIS PhD theses of Western India'. Another study of evaluating PhD research in the field of commerce is done in India entitled "Information Use Pattern of Researchers in Commerce: A Citation Analysis of Doctoral Dissertations" (Devi & Sankar V. S, 2014). In Iran for the evaluating MA dissertations in the field of library and information science research was conducted entitled "A citation analysis study of MA dissertations in the library and information science field in universities in Tehran" according to author the purpose of this study is "to analyze citation behaviors of students in the LIS field among a variety of local universities in Tehran." In Pakistan, researcher has not found any research regarding evaluating the student's research in field of Library and information Science (LIS). This research will be the first research of evaluating the PhD students research (Theses) of library and information science submitted during 2007 -2016 in overall Pakistan.

In this study, the researchers are gauging the references of PhD thesis of LIS professionals for evaluating the quality of source of material, that LIS professionals used during the publishing their doctoral research from 2007 to 2016. This research will also be beneficial for acquisition of required LIS material and motivate new researchers for using impact factor resources in their research work.

Statement of the Problem

This study is an attempt to gauging sources of the LIS doctoral research published in Pakistani LIS Schools/ Universities during 2007 to 2016, as a result of this research the LIS researchers will be aware regarding the responsible LIS resources that meet the HEC criteria. This research will provide the current research trend during the last ten years and its growth and this research also will be beneficial for acquiring the LIS reference materials.

Significance of the Study

Citation analysis is used as tool of evaluation of research in all over the world. In the past many studies were carried out in Pakistan using citation analysis in different subject fields, but this is a first study of analysis of LIS PhD thesis citation. This study will enable to understand the worth of LIS research produced in Pakistan in the Library and Information Science PhD degrees, the result of this study will provide the trend of research in LIS community, it will also inform which type of information format is popular among the LIS researchers. Online digital resources like digital databases of scholarly publications, subject search engines and relevant websites or printed hard bound resources like books, monographs and printed scholarly journals. This research will be used as key for searching the responsible resources of the LIS literature as well as it will be beneficial for acquisition of LIS material.

Review of Relevant Literature

Library and Information Science (LIS) education and training in Pakistan started from 1915. When an American library expert Dickinson's started the certificate course in the Punjab University Library. This course was discontinued when Pakistan got independence from British rule after the independent Prof. Dr. Abdul Moid efforts were appreciable during the period of 1948 -1956. He was the first doctor of library science in Pakistan and he obtained his PhD degree in library science from the Illinois University, USA in 1964. He established the Department of Library and Information Science (LIS) in August 10, 1956 at University of Karachi, it was the cause for motivating other universities to start LIS education. Samdani and Rubina Bhatti (2011) conducted their research about doctoral research in field of library and information science done by Pakistan LIS professionals during the 1947 to 2010, authors analyzed the subject areas in which Pakistani LIS researchers done their doctoral research, researchers identified the universities that

providing doctoral degree of library and information science in Pakistan. They stated the University of Karachi awarded the first doctoral degree in 1981 to M.A.H Chishti. The causes of lack of interest obtaining doctoral degree in the LIS Haider & Mahmood (2007) stated the causes of lack of interest and poor quality of submitted thesis of library professional for doing the PhD research is the lack of encouragement, “non- availability of financial assistants, no fixed criteria for admission, absence of supervision and proper guidance”. The facilities of Digital Reference Services (DRS) study done by Ali, Muhammad Yousuf; Haider (2016) in this research the researcher collected the data from 36 public and private Universities of Karachi, they observed the causes of slowing activity of Digital Reference Services (DRS) in Karachi public and private Universities. Result of this study informed these causes; the lacking of IT infrastructure and poor skills of researcher and librarian, the researcher advised to the HEC covered all hurdles through providing infrastructure and trainings, these components are observed by the researcher; designation of respondent , Professional Experience of respondent, Establishment year of the University, IT infrastructure, Internet Services, Operating System Types, Types of Web Browsers, Digital Resources, Digital Reference Services like Ask librarian, Instant Messengers, E-mail services, Mobile Reference, Social Media Network and Voice over Internet Protocol (VoIP) researcher concluded their research with these remarks Karachi universities are going to be implementing the DRS facilities.

Citation analysis can be defined (Dutta, 2014) the investigation of the frequency, patterns and graphs of citations in articles and books used by researchers, to build links to another research work. It is broadly used approach for bibliometric study. Bibliographic coupling and co-citation analysis are also build on the basis of citation analysis. Automated citation indexing has developed a new dimension for citation analysis study for this approach millions of citations were analyzed for large-scale patterns and knowledge discovery. The Cite Seer is the first example of automated citation indexing, Google scholar also followed it. Nowadays many citation analysis tools are available like Web of Science, Scopus and Google Scholar. The first study was observed in 1972 “indispensable in chemical education” in that study the authors’ Gross, P. L. K. & Gross E. M counted and analyzed the citations added the articles in chemistry journal and by ranking the journal titles according to the number of citations received.

It is to be noted that the studies by Cole and Eales were based on entries in bibliographies, but not on citations. Citation analysis gradually became an inseparable area of bibliometrics with applications in many fields of knowledge. Goedecken (2017) found out through his research entitled study developed for the cited articles of “Library & Information History (formally library History)” that the first publication of this journal was published in 1967. Author selected the 50 years issues of the observing journal, from 1967 to 2015 and divided this period into six parts in this manner “1967 to 1979, 1980 to 1989, 1990 to 1999, 2000 to 2005, 2006 to 2008, and 2009 to 2015”. The author provided the detail of each period, cited article’s author, title, year of publication, page number, volume, issue of the journal, last time cited date and the articles are cited in journal or monograph. Articles of the journals are cited in 117 journals in the field of library and information science, while the 50 other journals are also cited the articles of observing journal. Ho, Liu, & Chang (2016) in this study researchers have investigated the citation based review of research paper produced different results regarding traditionally exact characteristics of review of research paper. Researcher used the Scopus database to find out of research field. The research field of this research is e-tourism in this connection researcher selected the 1421 publications from 1988-2015 through several keywords like “e-tourism and e-travel”. In the methodology they used two methods “main path analysis and network based clustering”. Authors argued in this study the building cluster analyses of review paper are affected with the citation characteristics.

Rosenberg (2015) found out the utilization of library material by M.A and PhD students of the Hebrew University of Jerusalem. The researcher conducted this study through observing citations of M.A and PhD theses that submitted in Sociology and Anthropology department of the Hebrew University of Jerusalem during the 2010-2013. There are five variables like type of material, format, language of material, year and age were defined for conducting this research, the results were showed the books are most used material as compared to journals, books were used in printed or hard format whenever journals were used in both formats digital and printed. Majority research cited in English language, mostly current resources were cited, 15 years back published library materials were not used in submitting the thesis. Condic (2015) the researcher observed the references of student research in the form of a thesis or dissertation and the published paper of faculty members for examining the status of usage scholarly materials that used during the

compilation of their research, researcher found the students were not concerning the status of scholarly material that used them as reference of their research but faculty members are very conscious for their publication references they used in high/medium impact factor journals publication for their research. The specialty of this research is, the researcher bifurcates their research pre-web, developing web and post-web period. (Becker & Chiware, 2015) in this study researcher used the bibliometrics technique for assessing the library collection has fulfilled the requirements of PhD and Master level students. In this connection researchers used the cited material of the thesis that submitted “the eight department of faculty of engineering at the Cape Peninsula University of Technology (CPUT) during 2005-2014”. The age of materials, Type of materials, language and publication’s countries of cited materials are used for conducting the research. Results showed the total number citations “70947” used by chemical, civil, construction, electrical, industrial and Mechanical department of CPUT, about the type of material research informed the total number of books are 2389, journals are 2389, proceedings are 486, online resources are 776 and others are 976 used in Portuguese, French Gabon and Ghana languages other than English and 42 countries publications are cited in this research.

Abeyrathne (2015) this study conducted for library collection building, the bibliometrics study of these citations were used by the researcher, the researcher used Bradford’s law. The objectives of this study are: to determine formats of library materials that used by university researchers (Books, journals and etc), to organize the ranked list of the journals and suggestions for library collection building, in this connection researcher evaluate 8,224 citations from 204 theses of “Faculty of Agriculture, University of Peradeniya, Sri Lanka. Devi & Sankar V. S (2014) the author conducted this research for observing the pattern of research material that used in the field of commerce in the University of Kerala, India. Researcher used all PhD dissertations of commerce Department of university that’s submitted during 2001-2010 as a source/Population of the research. The bibliographic details of the theses and the bibliographic details of the cited materials are observed for what type of information are used by the researcher of commerce department of Kerala University. Results showed that the Research Journals are most popular cited source. About the age of citations, researcher informed that the 2007 published sources are the latest and the 1923 Published sources are the oldest sources of the research, regarding geographically status research showed the most used resources are from Indian and least used publication is from the Switzerland. Phugnar (2014) in this research the citation of LIS PhD thesis

are evaluated by the author, entitled “A citation analysis of doctoral dissertation in library and information science accepted by the universities in Western India” in this research; the researcher try to find out the way of research conducting activities in the field of library and information science in the universities of western districts of India and analyzing the cited work of PhD theses. Results showed that the 14 universities of western zone of India, 152 PhD degrees was awarded till 2010. Due to the ICT influence the productivity LIS research has been increased since last ten (10) years whereas the LIS research activities are started in 1950 in India. Total 16313 citations were found form the studied 124 theses. Each thesis is used approximately 132 references. The average of electronic and printed references also calculated. The researcher observed these entities of each citation type of document, chronological and geographical allocation of documents (Books, Journals, Proceedings websites), LIS and none LIS journals, language, Frequency, Authorship pattern (Single, co, more than there and four or corporate), Ranking, (Publishers, LIS Journals and Research topics and URLs) Bradford’s Law is used for the Scattering of the research elements. Gao, Yu, & Luo (2009) the researchers conducted this research for understand the needed material of library user for “Wuhan University (www.whu.edu.cn) in China” in this connection researcher developed “the case study of a citation analysis of 56 PhD theses form four main departments of university Library and Information science (LIS), Biology, Photogrammetry and Remote Sensing (PRS), and Stomatology submitted in 2005”. 14 theses were found with 2470 cited references from LIS department accordingly from biological department 14 theses with 3008 cited references, department of PRS 14 theses with 2332 cited references, Stomatology department 14 theses with 2412 cited reference, in these manuals total 56 theses were found with 10222 citations reference. Journal articles were most frequently used material second monographs. English and Chinese are languages that are mostly used languages.

Ahsan, Akhtar, Ali, & Munir (2014) compared the statues of doctoral research before HEC and after HEC submitted theses during 2001-02 and 2012-13, in this research, researchers observed the technical weaknesses of the submitted both group theses. Researcher defined many weaknesses of the submitted theses like conceptual foundation, critical Reading, coherence consistency and citation referencing. Halai (2013) revealed historical background of higher education since independence of Pakistan 1947. He informed only one university in Pakistan namely the University of Punjab was working, after the independence during 30 years. Pakistan established

20 public universities. The private universities were introduced in 1983 in Pakistan, this time 59 private universities and 73 public universities are working in Pakistan. Researcher informed that the HEC ranking has three major part Q.A Ranking (Quality Assurance Criteria 18 marks), T. Q (Teaching Quality 42 marks) and R.C (Research Criteria 40 marks), in this manner total score (100). The researcher observed the private university education according to above mention criteria in comparison with the public sector universities. Lewandowski (2009) the researcher published this research for providing suitable ranking factors of library material, this research is based on overview the ranking factors that the web search engines are using, the researcher described the traditional catalogue of library should be improved based on web 2.0. Librarian should provide “perfect results set” in comparison of bibliographic details of any library materials, provide key word from full text of document for this purpose librarian can use different algorithm. Popularity of documents should be considered in this connection. Freshness, locality, size of item and user groups also a good ranking of library materials. Sayyadi & Getoor (2009) in this paper the researchers defined that the ranking of paper is really difficult and important task, for this purpose bibliometrics studies are used the measuring the research paper and Page Ranks Scours but these sources informed about the current statues of any scientific paper but researchers emphasized the future ranking of scientific paper, in this connection they defines some algorithms in this paper for future ranking for getting these nodes arXiv ID, Title, publication date Citations before, citations after, page rank, future Rank (CA), future ranks and future Page Ranks.

Objectives:

Following research objectives were formed:

- 1) To find out citation analysis of doctoral theses submitted in Library Schools of Pakistan during 2007 to 2016
- 2) To reveal citations according to types of documents
- 3) To know geographical affiliation of publications
- 4) To find out authorship patterns
- 5) To know citation trends in journals

Research Methodology:

Quantitative research approach followed by survey research design has been adopted for this study. Population of this study comprised of references enlisted in PhD theses, completed during 2007 to 2016 and from the following Pakistani Universities which offers PhD in Library and Information Science or in Information Management:

1. University of the Punjab, Lahore
2. University of Sindh, Jamshoro
3. University of Peshawar, Peshawar
4. University of Karachi, Karachi
5. Hamdard University, Karachi
6. Islamia University Bahawalpur, Bahawalpur
7. University of South Asia Lahore

For more accuracy in the result, the researchers used all the available data for analysis; hence there was no need for sampling and sample size. The current study was conducted for evaluating the information resources of PhD theses of Pakistan which were submitted during the 2007 to 2016. For collecting data, different strategies were used like formal letters, telephonic conversation and emails. For analysis of the data, researchers created the excel sheet and observed the citations of theses for knowing the status of used references or cited material of theses.

Data Analysis and Interpretation:

Citation According to Document-Type:

Table 1 shows that journals were used in high frequency (61.17%), followed by books (20.53%), Reports (5.65%), conference proceedings (3.07%) and Newspapers articles (0.43%) used by the scholars.

Table 1: Distribution of Citations According to Types of Documents

Sr. #	Type of Document	Count	Percentage (%)
1.	Books	374	20.53%
2.	Theses	63	3.45%
3.	Websites	93	5.10%
4.	Conference Proceedings	56	3.07%
5.	Newspaper Articles	8	0.43%
6.	Reports	103	5.65%
7.	Journals	1114	61.17%
8.	Online databases	10	0.54%
9.	Total	1821	100%

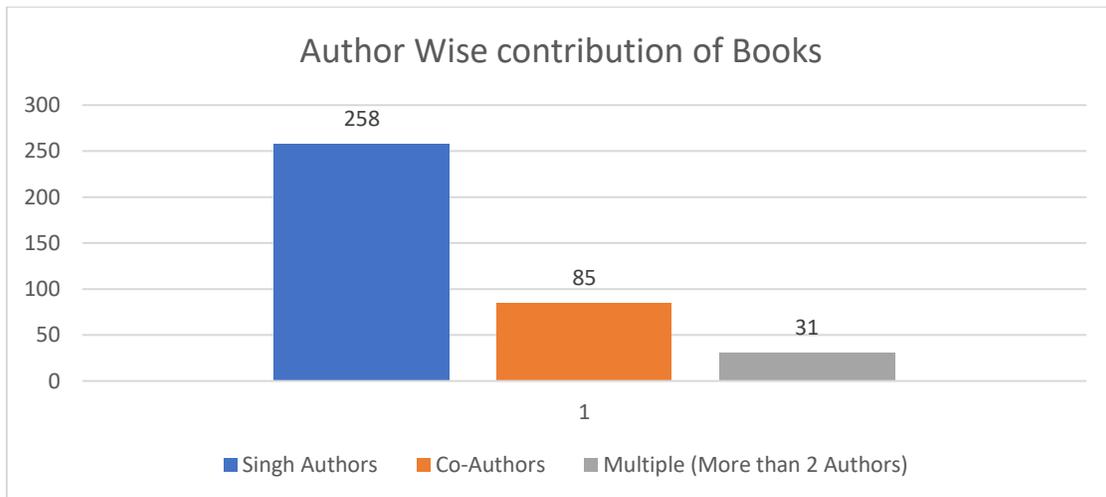
Books

In this category, books are observed according to author pattern (Single, co-author and multiple authors), geographical affiliation of publisher, and number citation of the same books.

Author Pattern:

Total number of cited books are 374 out of total citation 1821. The researchers found the books having single author were 258 and co-authors 85 and multiple authors were 31.

Image 1: Author pattern



Chronological Distribution of books

The chronological study of books is very important study in the research work. In this study researchers observed that oldest book used as reference was published in the year 1940 and latest published book year is 2015. Researchers have distributed this data in the decade wise in the table.

Researchers have divided Pakistani LIS PhDs data into decade wise, but last division is compiled of five years for evaluation. It is observed that referred books are from decade of 1940-50. Mostly used books are in decade 2001-2010. Number of books found having single author were 258 and co-authors 85 and multiple authors were 31.

Table 2: Chronological Distribution

Number of books	Decade	No. of PhDs
2	1940-1950	0
2	1951-1960	0
8	1961-1970	0
21	1971-1980	0
42	1981-1990	0
140	1991-2000	0
144	2001-2010	9
15	2011-2015	3

Geographical affiliation of books

Results are shown that most cited books are affiliated from USA (46%). After it UK is on second number within using the (25.33%). India (13%) while the Pakistan (8%) and All other countries are covering (8%) of the total books used in the study.

Table 3: Geographical affiliation

Country	Books	Country	Books
Australia	1	India	48
Canada	2	Japan	1
France	15	Kenya	1
Germany	2	Netherlands	5
Pakistan	30	Thailand	1
Singapore	1	UK	95
Switzerland	1	USA	171

Citation of the Same books

Results are shown that many books are cited more than one time. In this study Researchers observed that maximum number of citations of the same books is 7 times and number of books are 9, after that 5 times and number of books are 8 and 4 times cited same books are 5.

Table 4: Number of citations of the same books

Repetition	Books	Total
7 times	9	63
5 times	8	40
4 times	5	20
3 times	13	39
2 times	49	98
1 times	114	114
Total	198	374

Theses

Theses are belonged to grey literature (England, 2018) this primary source of literature is played a very important role in any field of research. In this study it is observed that the Pakistan PhDs of LIS were also used this imported source. Researchers analyzed the usage of theses or

dissertations sources according to Chronologically decade wise, geographical affiliation, and number of citations of the same Theses.

Chronological Distribution of Thesis:

Total number of 63 Thesis were used in the study. The data reflect the highest used thesis data is 2005-2014 (33%). After it is surprised that first decade 1975-84 Thesis are mostly used (30%). middle two decades i.e. 1985-1994 & 1995-2004, Thesis are used 11% and 26% respectively.

Table 5: Chronological Distribution of Theses

Decade	Theses	No. of PhDs
1975-1984	19	0
1985-1994	7	0
1995-2004	16	0
2005-2014	21	12

Geographical Distribution of Theses:

The data shows that mostly cited Theses are belonging to Pakistan (48%). After that USA (22%) and thesis from all others countries are cited (17%) and (13%) cited these are not indicating the counties.

Table 6: Geographical distribution of Theses

S. No.	Geographical Affiliation	Thesis
1	Canada	1
2	India	4
3	Malaysia	1
4	Nigeria	1
5	Pakistan	30
6	South Africa	3
7	Sri Lanka	1
8	USA	14
9	Not Mentioned	8

Journals

Researchers have evaluated the journal data in two major categories:

- i. Pakistani Journals
- ii. International Journals

Pakistani Journals

Pakistani Journals are evaluated according to chronological Status, LIS and non-LIS journals and HEC ranking criteria.

Chronological Distribution of Pakistani Journals

Data showed that mostly Pakistani LIS PhDs are using journals from the period 2007 to 2016 and old journals are used i.e. 1987-1996 study time. It means that researchers prefer latest publications for citing their research.

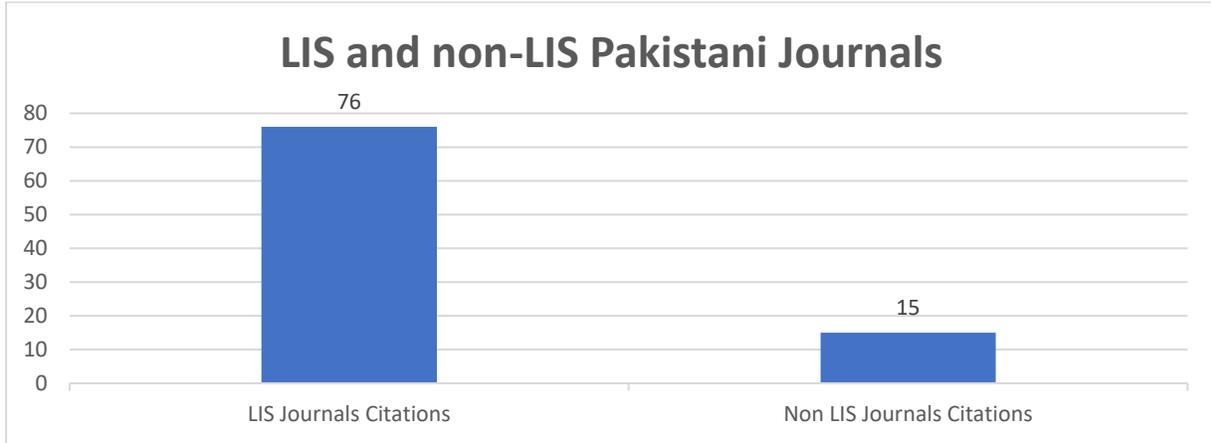
Table 7: Chronological Distribution of Pakistani Journals

Decade	Citations
1977-1986	3
1987-1996	28
1997-2006	23
2007-2016	30

LIS and non-LIS Pakistani Journals

Data showed that total citations are used from Pakistani LIS Journals are 76 from 9 Pakistani Journals and other 15 citations used from other than LIS journals. Under observation data showed that developed PhD research are very professional research.

Image 2: LIS and non-LIS Pakistani Journals



Number of Citations of Pakistani LIS Journals

Data showed that the eight (8) LIS Pakistani journals were used in this observed research but actually these are six (6) Journals, two journals have changed their title name:

1. Pakistan Journal of Library & Information science now familiar Pakistan Journal of Information Management & Libraries as well as.
2. Pakistan Library Bulletin now called Pakistan Library & Information Science Journal.

Table 8: Number of Citations of Pakistani LIS Journals

Name of Pakistani Journal	Number of citations
Pakistan Journal of Information Management & Libraries	5
Pakistan Journal of Library & Information science	10
Pakistan Library & Information Science Journal	21
Pakistan Library Bulletin	21
Pakistan Library Association Journal	8
Pakistan Library Review	1
Pakistani Librarian	1
PULSAA News	5

HEC Ranking of Pakistani Journals

Data showed that X and Y category journals are used in the under observation data.

Table 9: HEC Ranking of Pakistani Journals

Sr. No.	Title of Journal	HEC Ranking
1	Fikr-o-Nazar	Y
2	Pakistan Journal of Information Management & Libraries	Y
3	Pakistan Journal of Library & Information science	Y
4	Pakistan Library & Information Science Journal	Y
5	Pakistan Library Association Journal	-
6	Pakistan Library Bulletin	Y
7	Pakistan Library Review	-
8	Pakistani Librarian	-
9	PULSAA News	-
10	Pakistan Development Review	X
11	Rawal Medical Journal	X
12	Pakistan Economic and Social Review	X

International Journals

International Journals data has been evaluated according to geographically, chronically, LIS and non-LIS journals and JCR listed journals, furthermore researcher divided all data according to geographically most cited journals as result three major countries are dominated, UK, USA, and Netherland.

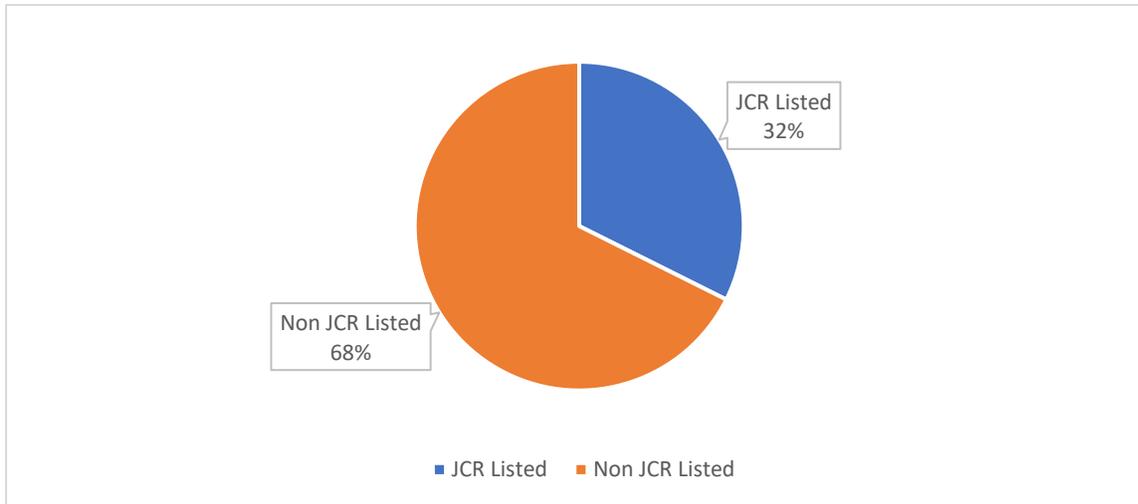
Journals published from United Kingdom (UK)

Data of Journals published from United Kingdom has been evaluated according to JCR Listed Journals; decade wise used journals, LIS & non LIS Journals and Single Journal citations repeated multiple times.

JCR Listed Cited UK Journals

UK based journals are cited 454 times out of total International Journal citation 1023 in which Journals Citation Report (JCR, 2016) listed journals are cited 147 times 32% and not JCR listed journals have cited 307times means 68%.

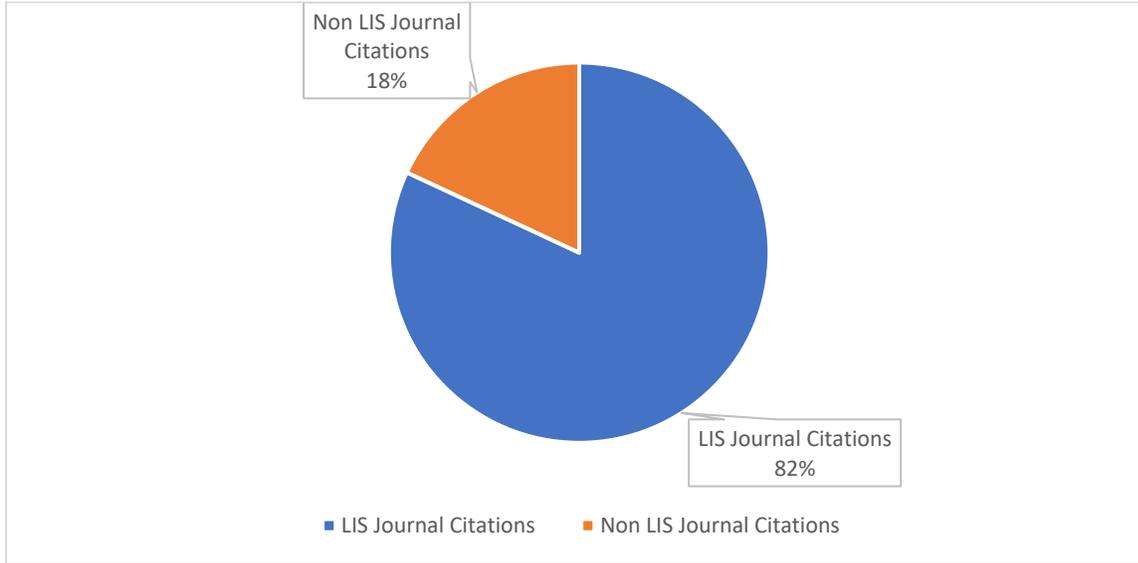
Image 3: JCR Listed Cited UK Journals



LIS and Non LIS Journal Citations

Data showed that LIS PhDs mostly used LIS UK based journals instead of non- LIS journals.

Image 4: LIS and Non LIS Journal Citations



Chronologically (Decade wise) UK based Journal citations

It is observed that 1999-2008 decade Published UK based journals are mostly used (261 times with 57.48%), 1979-1978 decade published journals placed at 2nd (98 times with 21.58%) and the decade of 2009-2015 published journal are placed at 3rd (69 times with 15.9%). It showed that during the development of research of LIS PhDs of Pakistan 2007 to 2016 mostly used 1998-2008-decade data.

Table 10: Chronologically (Decade wise) UK based Journal citations

Decade	Citations
1969-1978	4
1979-1988	22
1989-1998	98
1999-2008	261
2009-2015	69

Citations of a single Journal

It was examined how many times a single journal is cited and it is observed that the title of “Library management” is placed the 1st position with the 50 times are cited, and the last position journal is “Information Processing & Management” with the 8 times cited.

Table 11: Citations of a single Journal

Sr. No.	Title of Journals	Number of Citations
1.	Collection Building	38
2.	Electronic Library and Information Systems	9
3.	Health Information & Libraries Journal	10
4.	Information Processing & Management	8
5.	Information Research	13
6.	International Information and Library Review	20
7.	Journal of Information Science	27
8.	Library Hi Tech	18
9.	Library management	50
10.	Library Review	44
11.	New Library World	14
12.	The Electronic Library	35
13.	The International Information and Library Review	41
14.	Miscellaneous Journals	45

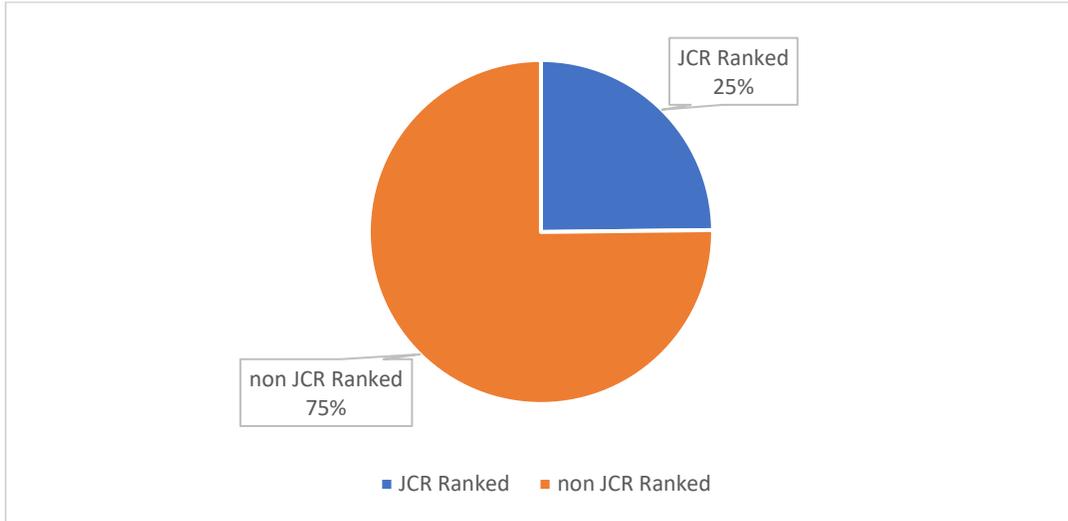
Journals published from USA

Data of Journals published from United States America (USA) has been evaluated according to JCR Listed Journals; decade wise used journals, LIS & non LIS Journals and Journal titles repeated multiple times.

USA Based JCR Listed Citation

Total USA based citations are 423 out of total international citations are 1023. Journal Citation Report (JCR, 2016) listed journals are cited 105 times 25% and not JCR listed journals have cited 318 times means 75%.

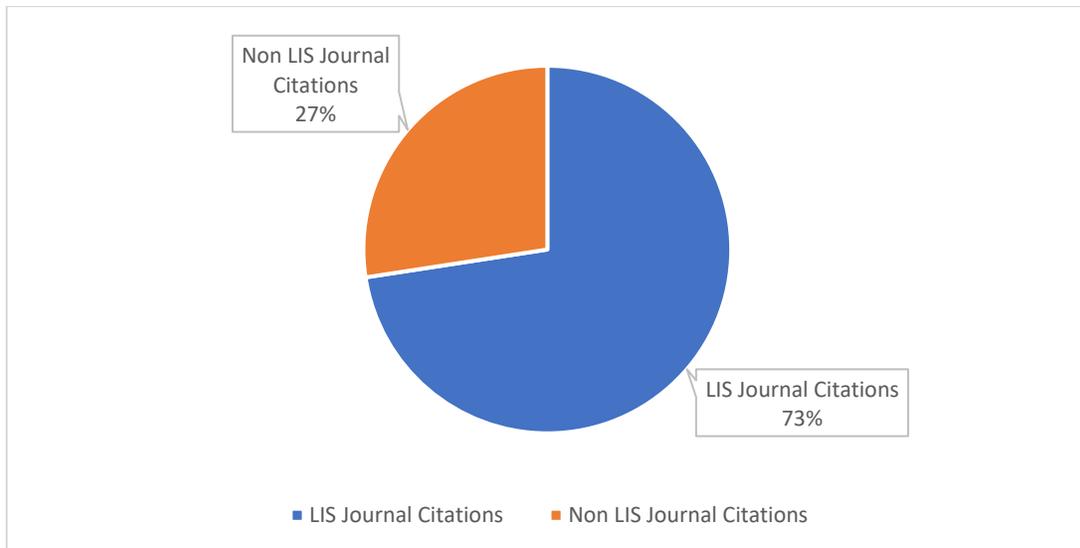
Image 5: USA Based JCR Listed Citation



LIS and Non LIS Journal citations

The data showed that the LIS Pakistani PhD were used 307, 73% citations from LIS journals out total 423 used USA based journals citation and 116, 27% citations were used from other than LIS Journals.

Image 6: LIS and Non LIS Journal citations



Decade Wise Used Journal Citations

It is observed that 2002-2011 decade Published USA based journals are mostly used (184 times with 43.49%), 1992-1981 decade published journals placed at 2nd (112 times with 26.47%) and the four years data from 2012-2015 published journal are placed at 3rd (36 times with 8.5%). It showed that during the development of research of LIS PhDs of Pakistan 2007 to 2016 mostly used 2002-2011 decade data.

Table 12: Decade Wise Used Journal Citations

Decade	Citations
1932-1941	1
1942-1951	2
1952-1961	1
1962-1971	10
1972-1981	21
1982-1991	56
1992-2001	112
2002-2011	184
2012-2015	36

Citations of a Single Journal

In this attempt, researchers examined, how many times a single journal is cited. It is observed that the title of “Bulletin of M.A” is placed the 1st position with the 60 times are cited, and the last position journal is “World Libraries” with the 9 times cited.

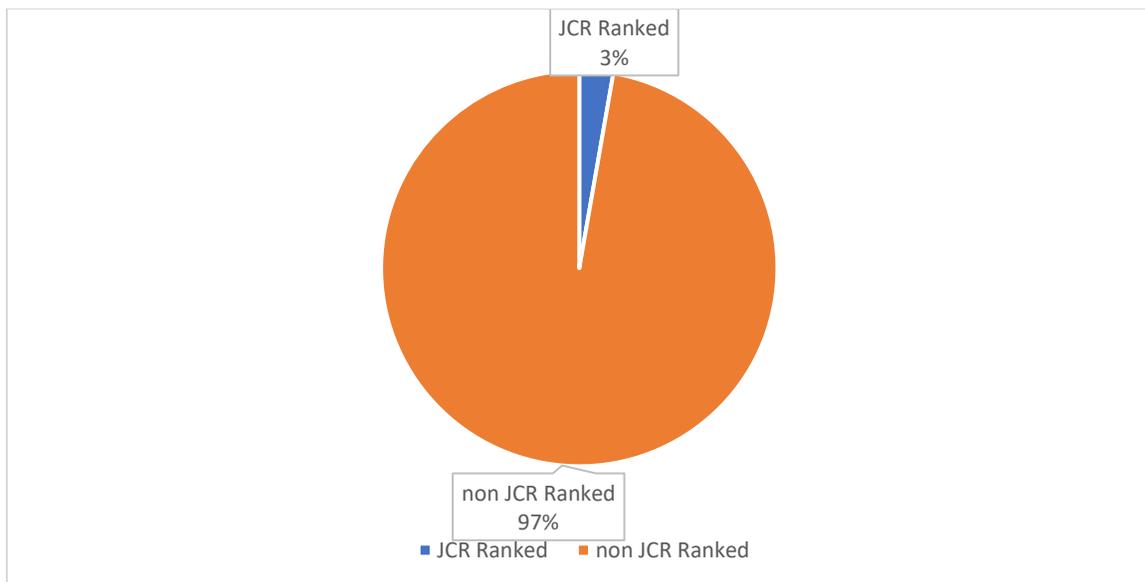
Table 13: Citations of a Single Journal

Sr. No.	Title	Citations
1.	Bulletin of M.A	60
2.	College & Research Libraries	10
3.	IFLA Journal	15
4.	Journal of the American Society for Information Science & Technology	21
5.	Library Hi Tech News	21
6.	Library Journal	10
7.	Library Philosophy and Practice	40
8.	Reference & User Services Quarterly	11
9.	Library Trends	11
10.	World Libraries	9
11.	Annual Review of Information Science and Technology	10

JCR Listed Citation

Total 78 citations have been used which are affiliated with Netherlands. As per Journal Citation Report (JCR, 2016) listed journals are cited 9 times 3% and not JCR listed journals have cited 69 times means 97%.

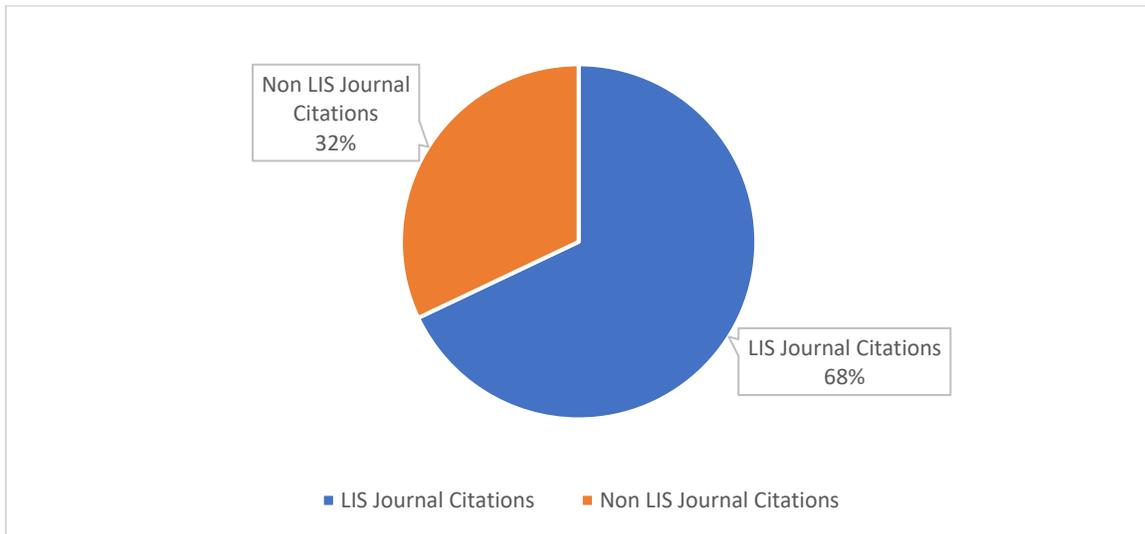
Image 7: JCR Listed Citation



LIS and Non LIS Journal Citations

The data showed that the LIS Pakistani PhDs were used 53, 68% citations from LIS journals out of total 78 used Netherlands based journals citation and 25, 32% citations were used from other than LIS Journals.

Image 8: LIS and Non LIS Journal citations



Decade Wise Used Journal Citations

It is observed that 2001-2010 decade Published Netherlands based journals are mostly used (40 times with 51.2%), 1991-2000 decade published journals placed at 2nd (32 times with 41%) and 1981-1990 decade published journals placed at 3rd (10 times with 12.8%). It showed that during the development of research of LIS PhDs of Pakistan 2007 to 2016 mostly used data of decade 2001-2010.

Table 14: Decade Wise Used Journal Citations

Decade	Citations
1981-1990	10
1991-2000	22
2001-2010	40
2011-2014	6

Citations of a single Journal

It is observed that the title of “Library & Information Science Research” is placed the 1st position with the 28 times cited, and the last position journal is “Education for Information” with the 6 times cited.

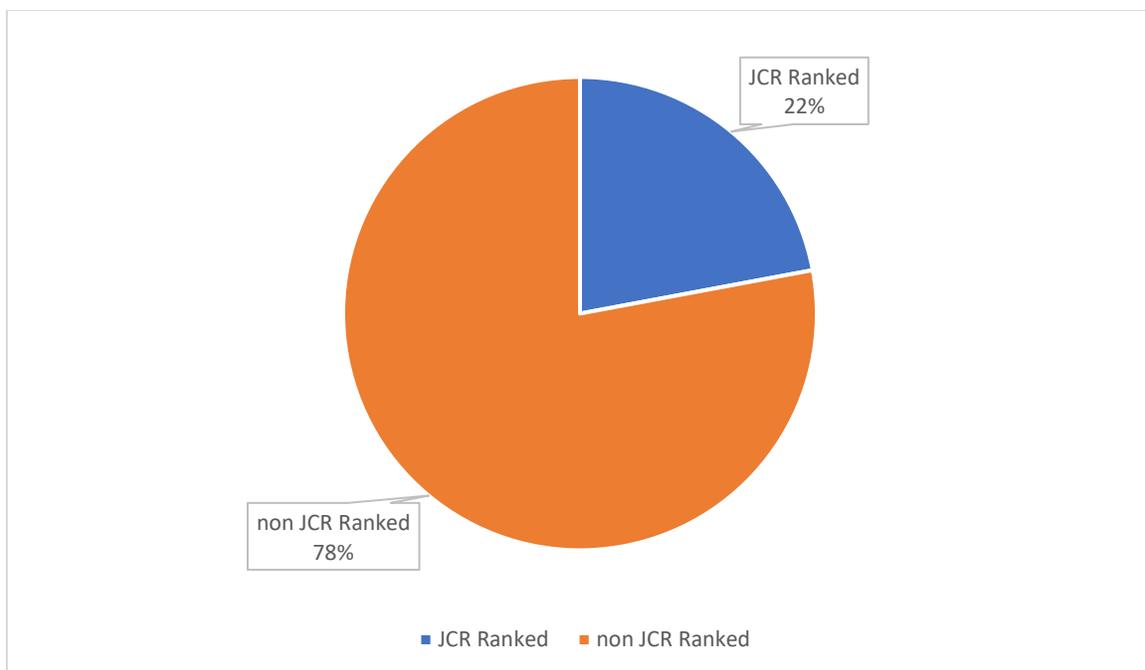
Table 15: Citations of a Single Journal

Sr. No.	Title	Citations
1.	Education for Information	6
2.	Library & Information Science Research	28
3.	The Journal of Academic Librarianship	20
4.	Other	24

JCR Listed Cited Journals

Total citations are 68 out of total international citations are 1023. Journal Citation Report (JCR, 2016) listed journals are cited 15 times 22% and not JCR listed journals have cited 53 times means 78%.

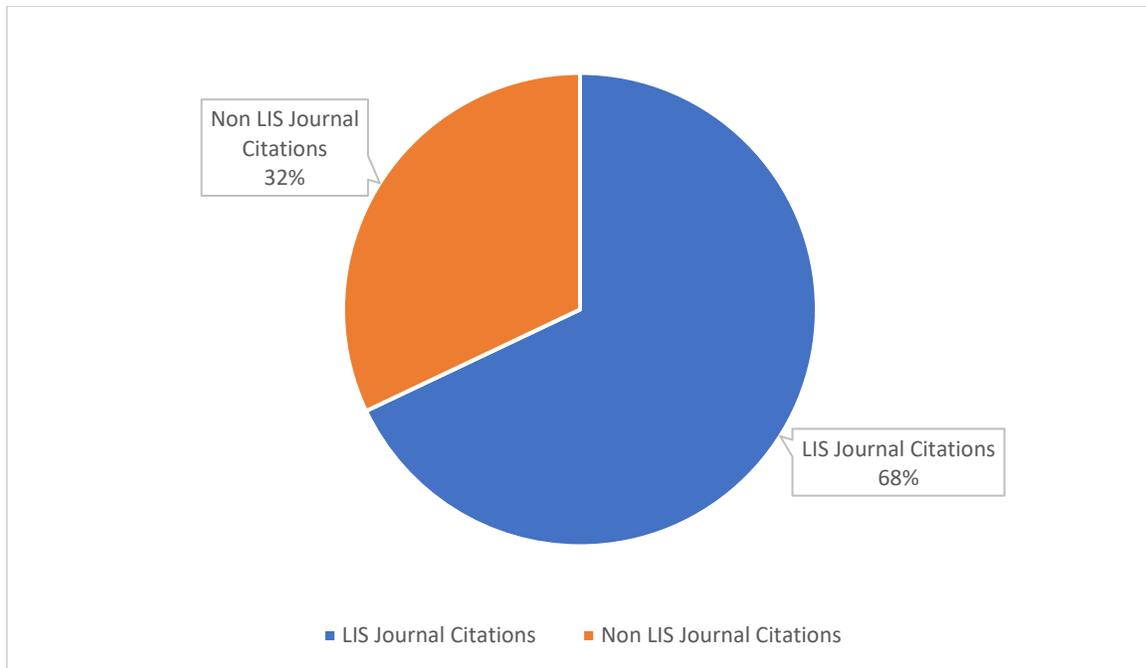
Image 9: JCR Listed Cited Journals



LIS and non-LIS Journal citations

The data showed that the LIS Pakistani PhD used 40, 68% citations from LIS journals out of total 68 used Netherlands based journals citation and 28, 32% citations were used from other than LIS Journals.

Image 10: LIS and non-LIS Journal Citations



Decade wise used Journal citations

It is observed that 1999-2008 decade citations of journals published from different countries are mostly used (38 times with 55.88%), 1989-1998 decade published journals placed at 2nd (11 times with 16.17%) and 2009-2015 decade published journals placed at 3rd (10 times with 14.7%). It showed that during the development of research of LIS PhDs of Pakistan 2007 to 2016 mostly used data of decade 1999-2008.

Table 16: Decade Wise Used Journal Citations

Decade	Citations
1969-1978	4
1979-1988	5
1989-1998	11
1999-2008	38
2009-2015	10

Citations of a single Journal

It was examined how many times a single journal is cited. It is observed that the title of “Electronic Journal of Academic & Special Librarianship” and the title of “Libri” are placed the 1st position with the 10 times are cited each journal and the last position journals are with the title “Annals of Library & information Studies” and “Webology” with the 3 times cited each.

Table 17: Citations of a Single Journal

Sr. No.	Title	Citations
1.	Annals of Library and Information Studies	3
2.	DESIDOC Bulletin of Information Technology	6
3.	Electronic Journal of Academic and Special Librarianship	10
4.	Libri	10
5.	Webology	3

Findings:

Total 1821 references were evaluated in this study. **374 Books** were cited; the data showed that single author books were 258, co-authors 85 and multiple authors 31. Cited mostly books were published during the year 2001-2010, mostly Published books were from USA (46%). After it UK (25.33%), India (13%) while from Pakistan (8%). Different books were cited more than one time. Maximum number is 63 books were cited 7 times. **63 Theses** were cited, mostly cited thesis were published during the year 2005-2014, Pakistani thesis were mostly used 30 (48%) After that USA 14 (22%) and thesis from all others countries are cited (17%). **84 Pakistani Journals** citation were

found from 7 LIS journals and 2 other than LIS Journals. **1114 International Journal** citation were found these journals were published different countries like USA, UK, Netherlands etc. USA based total citations were 423, LIS journals Citation were 307 and other than LIS journals were 116, UK based total citations were 454, LIS journals Citation were 317 and other than LIS journals were 147, Netherland based total citations were 78, LIS journals Citation were 53 and other than LIS journals were 25 other different countries data include India are total citations were 68, LIS journals Citation were 15 and other than LIS journals were 53.

Recommendations

Based on the findings of this study, the following recommendations are suggested:

1. References of PhD doctors were evaluated and it was observed that LIS PhD Scholars should be provided needful and quality material during the phase of conducting research.
2. During the last decade though the ICT technology has emerged a lot in the field of Library information science yet the PhD doctors have used online databases (451 references) only 24% of the total references evaluated. In this regard, it is suggested that facilitates may be provided to research scholars for depending upon digital resources for conducting their research in future.
3. Research is play key role in the uplifting the nation. It is observed during the PhD scholars research in the last ten years very minimum number of PhDs in LIS field so it is necessary to available all kind of facility in the libraries to support the research needs of the students.
4. Research Scholars should be provided sufficient information about Standard document format for writing thesis.
5. Trainings about Information literacy skills must be provided to research scholars so that they understand find, evaluate and use the required material especially access of the use of databases.
6. Due to ICT influence, citation management has become very easy due to the development of different applications of citation management. So that it is need of the time, to impart the trainings to research schools regarding proper utilization of

those applications / tools (Mendeley, Endnote, Zetora, etc) as LIS Professionals write their researches in the scientific way.

7. All University / Degree Awarding Institutes' libraries should develop their respective research repositories, which contain thesis of all PhD holders in the full text available on the library web pages.
8. HEC digital repository should be updated time to time as the researchers can download their required data as one window operation rather than visiting different library schools / departments in different cities.

References:

- Ahsan, M., Akhtar, M., Ali, R., & Munir, M. (2014). Evaluation of the Improvement in the Quality of PhD Theses Produced during 2001-2012 : A Case Study of Pakistani Universities. *Bulletin of Education and Research*, 36(2), 13–24.
- Ali, Muhammad Yousuf; Haider, K. (2016). Digital Reference Services (Drs) Among the Public & Private Sector Universities Libraries in Karachi a Comparative Study. *Academic Research International* , 7(1), 222–230.
- Becker, D. A., & Chiware, E. R. T. (2015). Citation Analysis of Masters' Theses and Doctoral Dissertations: Balancing Library Collections With Students' Research Information Needs. *Journal of Academic Librarianship*, 41(5), 613–620. <https://doi.org/10.1016/j.acalib.2015.06.022>
- Condic, K. S. (2015). Citation Analysis of Student Dissertations and Faculty Publications in Reading and Educational Leadership at Oakland University. *Journal of Academic Librarianship*, 41(5), 548–557. <https://doi.org/10.1016/j.acalib.2015.07.007>
- Devi, B. M., & Sankar V. S, J. (2014). Information Use Pattern of Researchers in Commerce: A Citation Analysis of Doctoral Dissertations. *Library Philosophy & Practice*, 1–36.
- Dutta, B. (2014). The journey from librametry to altmetrics: a look back. Retrieved from <http://eprints.rclis.org/23665/>

- Gao, S. J., Yu, W. Z., & Luo, F. P. (2009). Citation analysis of PhD thesis at Wuhan University, China. *Library Collections, Acquisition and Technical Services*, 33(1), 8–16. <https://doi.org/10.1016/j.lcats.2009.03.001>
- Haider, S. J., & Mahmood, K. (2007). MPhil and PhD library and information science research in Pakistan: an evaluation. *Library Review*, 56(5), 407–417. <https://doi.org/10.1108/00242530710750590>
- Ho, M. H. C., Liu, J. S., & Chang, K. C. T. (2016). To include or not: the role of review papers in citation-based analysis. *Scientometrics*, (207), 1–12. <https://doi.org/10.1007/s11192-016-2158-0>
- Jabeen, M., Yun, L., Rafiq, M., & Jabeen, M. (2015). Research productivity of library scholars. *New Library World*, 116(7/8), 433–454. <https://doi.org/10.1108/NLW-11-2014-0132>
- Keat, Y. C., & Kaur, K. (2008). Citation study of library and information science dissertations for Collection development. *Malaysian Journal of Library and Information Science*, 13(2), 29–47. <https://doi.org/Article>
- Lewandowski, D. (2009). Ranking library materials. *Library Hi Tech*, 27, 584–593. <https://doi.org/10.1108/07378830911007682>
- Naseer, M. M. (2009). LIS Research in Pakistan : An Analysis of Pakistan Library and Information Science Journal 1998-2007. *Library and Information Science Research Electronic Journal*, 2009(2), 1–10.
- Phugnar, P. (2014). A citation analysis of doctoral dissertation in library and information science accepted by the universities in Western India: Chapter 3,. Tilak Maharashtra Vidyapeeth. Retrieved from <http://www.essay.uk.com/free-essays/science/bibliometrics-citation-citation-analysis.php>
- Pritchard, A. (1969). Statistical Bibliography or Bibliometrics? *Journal of Documentation*, 25(4), 348–349.

- Riahinia, N. (2010). A citation analysis study of MA dissertations in the library and information science field in universities in Tehran. *Library Review*, 59, 56–64. <https://doi.org/10.1108/00242531011014682>
- Rosenberg, Z. (2015). Citation Analysis of M.A. Theses and Ph.D. Dissertations in Sociology and Anthropology: An Assessment of Library Resource Usage. *Journal of Academic Librarianship*, 41(5), 680–688. <https://doi.org/10.1016/j.acalib.2015.05.010>
- Samdani, R. A., & Bhati, R. (2011). Doctoral Research in Library and Information Science by Pakistani Professionals: An Analysis. *Library Philosophy and Practice (E-Journal)*. Retrieved from <http://unllib.unl.edu/LPP/samdani-bhatti.htm>
- Sayyadi, H., & Getoor, L. (2009). FutureRank: Ranking scientific articles by predicting their future PageRank. *Proc. of the 9th SIAM International Conference on Data Mining*, 533–544. <https://doi.org/10.1137/1.9781611972795.46>
- Zong, Q.-J., Shen, H.-Z., Yuan, Q.-J., Hu, X.-W., Hou, Z.-P., & Deng, S.-G. (2012). Doctoral dissertations of Library and Information Science in China: A co-word analysis. *Scientometrics*. <https://doi.org/10.1007/s11192-012-0799-1>