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Assessing Research Impact Through Citation Analysis: A Study Of Lis Doctoral Theses Submitted To Banaras Hindu University, Varanasi

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Abstract

This study carries out a comprehensive citation analysis of doctoral theses uploaded on Shodhganga, the academic repository in Library and information Science of Banaras Hindu University. The study covers 20 doctoral theses uploaded on Shodhganga until February 2022. It shows a significant increase in the upload of doctoral theses between 2009 and 2019 which marks a peak in academic production during this period. The aim of this study is to investigate citation patterns, cited document types, trends in authorship, half-life of journals citations and the application of Bradford's Law of Scattering to assess the distribution of citations in doctoral theses in Library and Information Science. This study uses a mixed methods approach, involving both qualitative and quantitative analysis, to understand citation trends and research output in LIS at this university. The doctoral thesis received a total of 5,085 citations, with results indicating that journal articles are the most cited sources, followed by book, reflecting researchers' preference for peer-reviewed literature.

Keywords: Citation Analysis; Citation Patterns; Authorship Trends; Bradford's Law of Scattering; Academic Citations; Banaras Hindu University (BHU); Scholarly Impact

1. INTRODUCTION

Citation analysis is a key method used to assess the impact and dissemination of research work in the academic community. It counts the number of citations received by scholarly work, providing information about the effects and scholarly recognition of that research over time. This study analyses citations of doctoral theses submitted in the Library and Information Science of Banaras Hindu University (BHU), which is a significant contributor to the academic repository of Shodhganga. The Banaras Hindu University, a prestigious educational institution, was established in 1916 in the holy city of Varanasi. The Department of Library and Information Science was set up in 1941, and in 1942, it launched the second-ever Diploma Course in Librarianship, following Madras University. Given the university's long history, assessing the research impact of its Library and Information Science vision is crucial.

2. LITERATURE REVIEW

Rasaq et al., (2024) used systematic sampling and statistical analysis to examine citation patterns in undergraduate research projects. They analysed a total of 37 projects over the period 2013-2018. It was found that most citations

were from journal articles, indicating a preference for peer-reviewed sources. One third of citations were from conference papers, indicating that students value scholarly discussions. Some citations were from current papers, indicating possible differences in students' engagement with current literature. Das & Dipen Deka, (2023), conducted a study on citation analysis in Library and Information Science doctoral theses, revealing key findings and methodology. The study was based on identifying the main references in Library and Information Science doctoral theses submitted to North Eastern Hill University from 1994 to 2018. Journals that received the most citations had a half-life of 15.98 years, while book citations had a half-life of 20.06 years. This research also produced a ranked list of journals cited in LIS doctoral theses, in which "College and Research Libraries" was found to be cited the most frequently. Kaur & Verma, (2022) examined PhD theses of the Department of Library and Information Science, Maharashtra uploaded on Shodhganga from 2012 to 2019 for citation analysis. They found 1797 citations in 11 dissertations. Papers with one author received the most citations (1188 or 65%), followed by papers with two authors (504 or 28%), papers with three authors (99 or 5%), and papers with four or more authors (40 or 2%). They also looked at the gender distribution of supervisors and found that 64% of doctoral dissertations were supervised by female supervisors and 36% by male supervisors. Additionally, the study analysed the type and format of cited literature, with journal articles being the most cited (1098 citations), followed by books (327 citations). Kodandarama & Chandrashekara, (2022) analysed the resources used in data that included 17,474 citations from 571 research publications from the University of Mysore and Karnatak University in the field of physics. They compiled a list of journals, leading publishers, and prolific authors. Their results showed that journal literature accounted for the highest percentage of citations (89.57%), followed by books (6.21%) and software (1.01%). A country-specific analysis revealed a clear preference among physics researchers for literature published in Western countries. The authorship analysis revealed a high proportion of citations with multiple authors, accounting for 83.38% of the total citations. With 611 citations, Physical Review B ranks first in the list of journals. Shukla & Bhatt, (2022) examine citation patterns in doctoral theses. It reveals that citations are primarily from journal articles, with a preference for journal literature among researchers in Commerce and Financial Studies. Two-authored papers are the most frequently cited, with 806 citations (43.12%), followed by single-authored papers (689 citations, 36.86%). The study also reveals that 91.87% of citations come from international literature, with the United States, United Kingdom, and Netherlands being the top contributors. A significant portion of citations (52.65%) comes from commercial publishers. Understanding citation patterns can help inform future research and library practices. Khandare & Sonwane, (2021), analysed citations from economics PhD theses at Dr Babasaheb Ambedkar Marathwada University, Aurangabad. Their aim was to evaluate the relevance of Bradford's Law of Scattering and Leimkuhler's model. Their dataset included citations from economics dissertations from 1967 to 2017, totalling 30,611 citations from 319 dissertations, with 7,750 citations from journals. The ranking of journals shows that Economic and Political Weekly was the most frequently referenced, with 1,076 (13.88%) articles. Qualitative assessment showed some alignment with Bradford's law, although mathematical analysis indicated some anomalies. Additionally, data did not fit satisfactorily with Leimkuhler model using Bradford's coefficient (k) of 12.42. Singh & Kumar, (2021), conducted a comprehensive overview of existing research within the discipline of Library and Information Science. It revealed that articles are the most prevalent documents in research in the field of LIS, and the pattern of collaboration is increasing over time. Single-author publications are the most referenced among researchers, which emphasizes individual contributions. Information communication technology is the most popular research topic, with journals being the primary reference source. This research emphasizes the use of citation analysis as a methodological tool and suggests that LIS academics should focus on emerging research ideas to increase the relevance of LIS studies.

This study is needed to assess the research trends and scholarly impact of doctoral theses in the field of LIS at BHU with a particular focus on how the university's research has contributed to the field. This study will help understand how its research outputs are used and cited within the academic community and identify the key sources that significantly influence to the research of Library and Information Science. This study will help the BHU Library and Information community to enhance their research strategies and resource management.

3. OBJECTIVE OF THE STUDY

The objective of this study are mentioned below:

a. To Identify citation patterns;
b. To evaluate document types and importance;
c. To examine authorship patterns;
d. To Assess chronological citation distribution;
e. To find out the half life of Journals citation;
f. To verify Bradford's Law of Scattering's applicability.

4. NATURE AND SCOPE OF THE STUDY

The study is based on 20 doctoral theses submitted in the LIS subject at BHU and uploaded to the Shodhganga repository till February 2022. The theses date from 1967 to 2022, with the highest number of theses uploaded to the repository between 2009 and 2019. These theses received a total of 5,085 citations, and the study examines citation patterns across different document types, time periods, and authorship categories. The scope extends to analyzing the impact of theses within the academic community, using citation data to identify trends in LIS research.

5. METHODOLOGY

This study analyzed citation patterns in 20 doctoral theses from Banaras Hindu University (BHU) available on the Shodhganga repository as of February 2022. Data was collected from the references listed in these theses, organized in Excel, and then analyzed for citation details. The research applied Bradford's scattering law and the Leimkuhler model to examine how citations are distributed across journals. A mixed-method approach was used to gain a comprehensive understanding of citation trends and research output in Library and Information Science at BHU.

6. DATA ANALYSIS

Banaras Hindu University uploaded 20 dissertations to Shodhganga by February 2022. The earliest dissertation available dates back to 1967, and the number of dissertations uploaded between 2009 and 2018 was comparatively higher. However, the university initially uploaded dissertations at a slow pace, but the rate of uploading increased after 2018. The peak year for uploads was 2019, during which 16 dissertations were added. Across these 20 dissertations, there are total of 5085 citations, revealed in an average of 254.25 citations per dissertation.

6.1 CHRONOLOGICAL DOCUMENT DISTRIBUTIONS

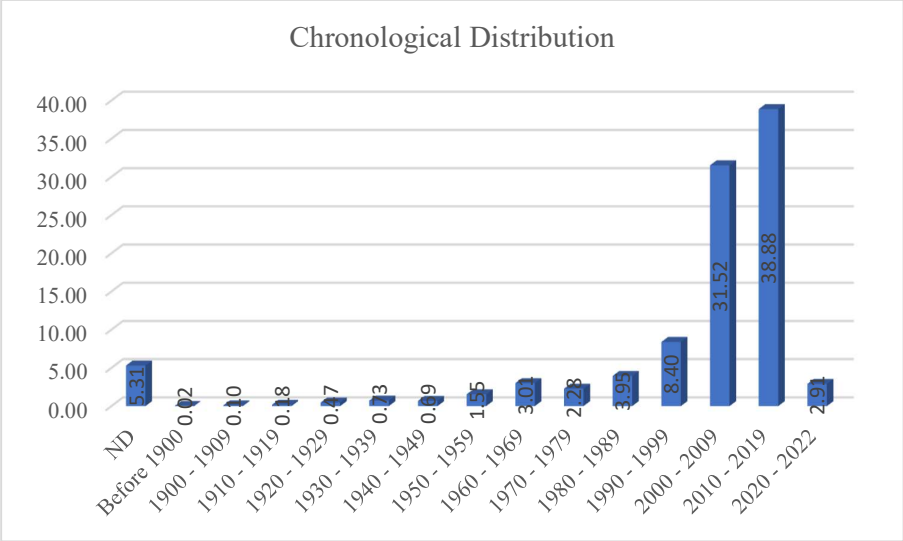
Table 1 and Figure 2 illustrate the chronological distribution of document citations collected from BHU. The highest percentage of citations, 38.88%, was attributed to documents published between 2010 and 2019, followed by 31.52% for publications from 2000 to 2009. Documents from 1990 to 1999 accounted for 8.40% of citations, while 3.95% were from 1980 to 1989. Additionally, 3.01% of citations were from documents published between 1960 and 1969. Citations from 2020 to 2022 made up 2.91%, and 2.28% were from 1970 to 1979. Documents from 1950 to 1959 represented 1.55% of the citations. In total, 5.31% of the citations did not specify a publication year, and citations from before 1950 were below 1%.

Table 1. Chronological Distribution of Cited Documents

Year	Citation	Cumulative Citation	Citation %
ND	270	270	5.31
Before 1900	1	271	0.02
1900 - 1909	5	276	0.10
1910 - 1919	9	285	0.18
1920 - 1929	24	309	0.47
1930 - 1939	37	346	0.73
1940 - 1949	35	381	0.69
1950 - 1959	79	460	1.55

1960 - 1969	153	613	3.01
1970 - 1979	116	729	2.28
1980 - 1989	201	930	3.95
1990 - 1999	427	1357	8.40
2000 - 2009	1603	2960	31.52
2010 - 2019	1977	4937	38.88
2020 - 2022	148	5085	2.91
Total	**5085**		100

Figure 1. Chronological Distribution of Cited Documents



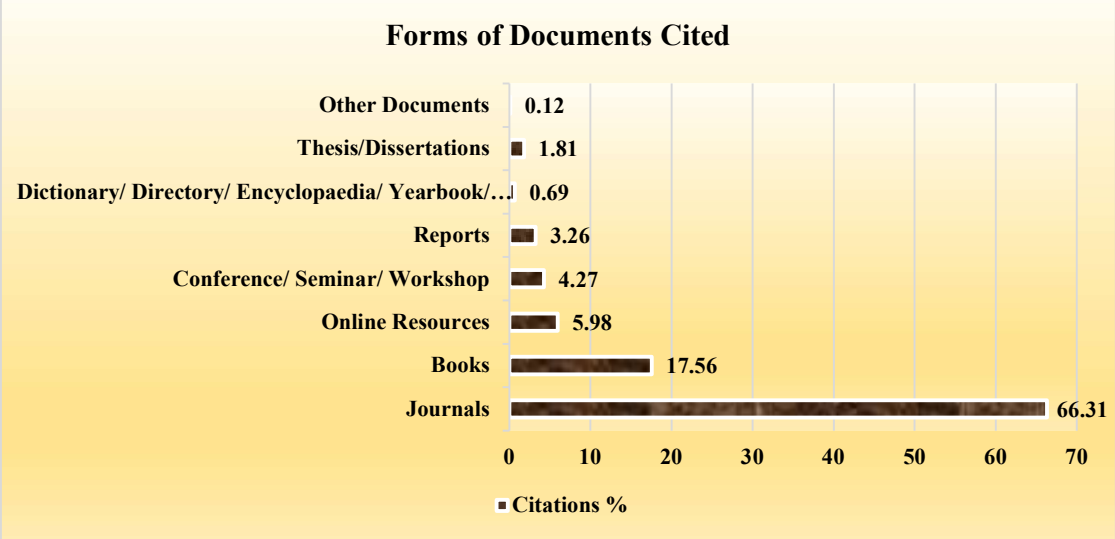
6.2 FORMS OF DOCUMENT-WISE DISTRIBUTION

Table and Figure 2 show the pattern of different forms of documents cited by research scholars of Banaras Hindu University. It shows that journals are the most cited documents with 3,372 citations, accounting for 66.31% of the total citations. This highlights the major reliance on scholarly articles published in academic journals as the primary source of information and

Table 2. Forms of Documents Cited by Banaras Hindu University

Forms of Documents	Citations	Cumulative Citations	Citations %
Journals	3372	3372	66.31
Books	893	4265	17.56
Online Resources	304	4569	5.98
Conference/ Seminar/ Workshop	217	4786	4.27
Reports	166	4952	3.26
Dictionary/ Directory/ Encyclopaedia/ Yearbook/ Manual/ Reference Book/ Standard	35	4987	0.69
Thesis/Dissertations	92	5079	1.81
Other Documents	6	5085	0.12
Total	**5085**		**100**

Figure 2 Forms of Documents Cited by Banaras Hindu University



research material. Books are in second place with 893 citations, accounting for 17.56% of the total citations. Despite being cited less frequently than journals, books remain an important source of information for scholars. This is followed by online resources in third place with 304 citations, contributing 5.98% to the cumulative citations. This indicates an increasing reliance on internet-based sources for research and information. Reports, including research and government reports, have 166 citations, making up 3.26% of the total citations. These documents are important for providing official data and findings. Reference materials such as dictionaries, directories, encyclopaedias, yearbooks, manuals, and standards are cited 35 times, contributing 0.69% to the total citations. These sources are used less frequently but are still important for providing definitions and background information. Theses and dissertations have 92 citations, accounting for 1.81% of the total citations. These works are cited for their specialized and in-depth research. Other documents, including various unspecified types of documents, are cited 6 times, making up 0.12% of the total citations. These may include unpublished works or non-traditional sources.

6.3 AUTHORSHIP TRENDS WISE DISTRIBUTIONS

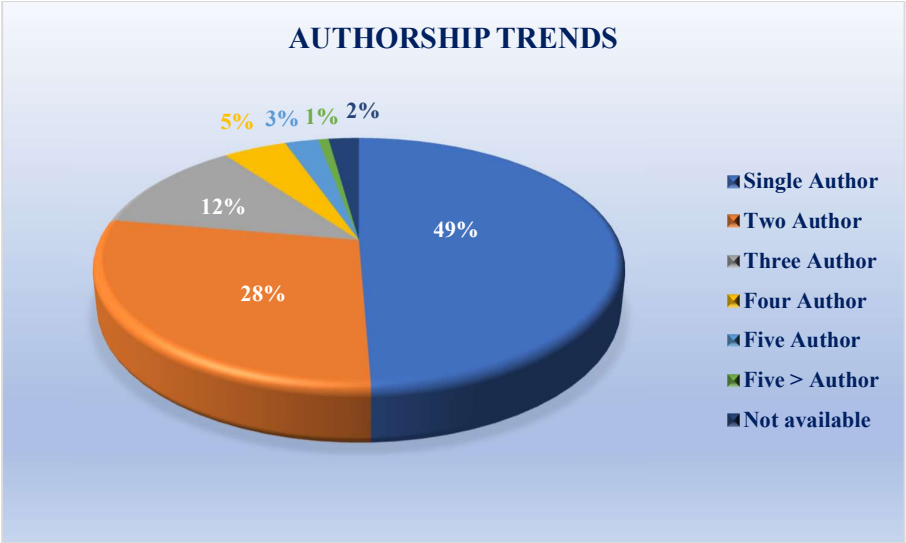
Table and Figure 3 provide an authorship trends analysis of cited documents. It reveals that single authors account for the highest percentage of citations at 49.38%, followed by documents with two authors at 28.36%. Documents authored by three, four, and five authors contribute 12.21%, 4.64%, and 2.44% of citations respectively. Publications with more than five authors and those with authorship information not available constitute 0.77% and 2.20% of citations, respectively. The distribution of citations by authorship highlights a predominant reliance on single-authored documents, followed by those with two authors, while documents with three or more authors collectively contribute to a smaller proportion of the citations.

Table 3 Authorship Trends in Cited Documents

Author	Citation	Cumulative Citation	Citation %
Single Author	2511	2511	49.38
Two Author	1442	3953	28.36
Three Author	621	4574	12.21
Four Author	236	4810	4.64
Five Author	124	4934	2.44
Five > Author	39	4973	0.77

Not Available	112	5085	2.20
Total	**5085**		100.00

Figure 3 Authorship Trends in Cited Documents



5.1.1 Obsolescence/ Half-Life of Journals in Banaras Hindu University

The formula for calculating the half-life of documents is given by Sen, (1999) is used for the analysis. The half-life is an integer number consisting of whole years and fractions of years, such as 9.921 and can be represented as

$$T=Y+y \qquad (1)$$

Where Y is the total number of years and y is the year fraction. This fraction of the year can be determined with the formula

$$y=\frac{a-b}{c-b}$$

Here, a represents half (50%) of all citations, b represents the cumulative total citations for the sub-critical year, and c represents the cumulative total citations of the critical year. The next year of sub-critical year is the critical year. Adding the value of y in equation (1), we get

$$T = Y + \frac{a-b}{c-b} \qquad (2)$$

Therefore, Equation (2) is the formula for determining the half-life.

Table and Figure 4 present data on the age distribution of journal citations in the BHU. The data indicate that out of a total of 3372 journal citations, 772 citations (22.89%) were from journals up to 5 years old, 969 citations (28.74%) were from journals up to 10 years old, and 684 citations (20.28%) were from journals up to 15 years old. Additionally, 407 citations (12.07%) were from journals up to 20 years old, 160 citations (4.74%) were from journals up to 25 years old, 84 citations (2.49%) were from journals up to 30 years old, 72 citations (2.15%) were from journals up to 35 years old, 52 citations (1.54%) were from journals up to 40 years old, 45 citations (1.33%) were from journals up to 45 years old, and 30 citations (0.89%) were from journals up to 50 years old. The table also shows that 53 citations (1.57%) were from journals older than 50 years, and the half-life of journal citations at Banaras Hindu University (BHU) was 9.68 years.

$$T = Y + \frac{a-b}{c-b}$$

$$a = \frac{3372}{2}$$

=1686

Y=9

b=1573

c=1739

$$T = 9 + \frac{1686 - 1573}{1739 - 1573}$$

= 9+0.68

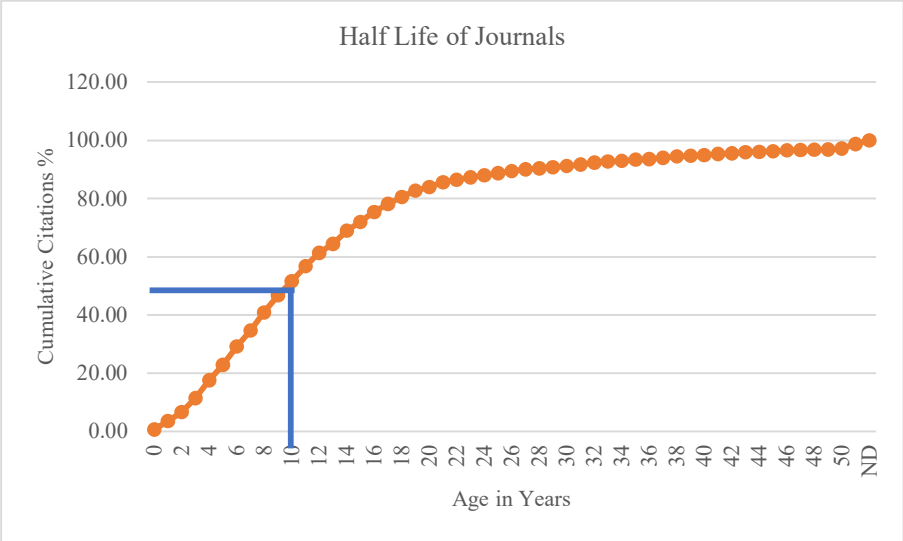
=9.68 years

Table 5.4.3 Obsolescence/ Half-Life of Journals

Age in Years	No. of Citations	% of Citations	Cumulative Citations	Cumulative %
0	23	0.68	21	0.62
1	99	2.94	120	3.56
2	102	3.02	222	6.58
3	161	4.77	383	11.36
4	208	6.17	591	17.53
5	179	5.31	770	22.84
6	212	6.29	982	29.12
7	185	5.49	1167	34.61
8	208	6.17	1375	40.78
9	**198**	**5.87**	**1573**	**46.65**
10	**166**	**4.92**	**1739**	**51.57**
11	173	5.13	1912	56.70
12	153	4.54	2065	61.24
13	107	3.17	2172	64.41
14	150	4.45	2322	68.86
15	101	3.00	2423	71.86
16	117	3.47	2540	75.33
17	95	2.82	2635	78.14
18	79	2.34	2714	80.49
19	72	2.14	2786	82.62
20	44	1.30	2830	83.93
21	54	1.60	2884	85.53
22	28	0.83	2912	86.36
23	27	0.80	2939	87.16
24	26	0.77	2965	87.93
25	25	0.74	2990	88.67
26	23	0.68	3013	89.35
27	23	0.68	3036	90.04

28	10	0.30	3046	90.33
29	13	0.39	3059	90.72
30	15	0.44	3074	91.16
31	15	0.44	3089	91.61
32	21	0.62	3110	92.23
33	14	0.42	3124	92.65
34	9	0.27	3133	92.91
35	13	0.39	3146	93.30
36	8	0.24	3154	93.53
37	13	0.39	3167	93.92
38	18	0.53	3185	94.45
39	7	0.21	3192	94.66
40	6	0.18	3198	94.84
41	13	0.39	3211	95.23
42	9	0.27	3220	95.49
43	14	0.42	3234	95.91
44	4	0.12	3238	96.03
45	5	0.15	3243	96.17
46	9	0.27	3252	96.44
47	4	0.12	3256	96.56
48	4	0.12	3260	96.68
49	4	0.12	3264	96.80
50	9	0.27	3273	97.06
>50	53	1.57	3326	98.64
ND	44	1.30	3370	99.94
	3372	**100.00**		

Figure 4. Obsolescence/ Half-Life of Journals



6.4 BRADFORD LAW OF SCATTERING IN BANARAS HINDU UNIVERSITY

Table 5. Bradford Law of Scattering

Journal Name	Citations	Cumulative Citations	Rank
Scientometrics	416	416	1
Annals of Library and Information Studies	93	509	2
SRELS Journal of Information Management	68	577	3
DESIDOC Journal of Library Information Technology	63	640	4
Collection Building	58	698	5
Journal of the American Society for Information Science and Technology	58	756	6
Library Philosophy & Practice	50	806	7
Journal of Documentation	46	852	8
Library Review	41	893	9
The Electronic Library	40	933	10
OCLC: International Digital Library Perspectives	34	967	11
International Research Journal of Library & Information Science	32	999	12
College and Research Libraries	31	1030	13
Journal of Informetrics	30	1060	14
Library Trends	28	1088	15
Reference Services Review	27	1115	16
Social Science Research	26	1141	17
Library Herald	24	1165	18
IASLIC Bulletin	23	1188	19
ILA Bulletin	23	1211	20
Information Processing and Management	23	1234	21
International Journal of Educational Management	23	1257	22
Library Hi Tech	23	1280	23
The International Information & Library Review	23	1303	24
University News	23	1326	25
Pearl - A Journal of Library and Information Science	20	1346	26
COLLNET Journal of Scientometrics and Information Management	19	1365	27
Journal of Academic Librarianship	19	1384	28
Journal of Indian Library Association	19	1403	29
Library Management	19	1422	30
Annual Review of Information Science and Technology	18	1440	31
Journal of Information Science	18	1458	32
Procedia - Social and Behavioral Sciences	18	1476	33
Program: Electronic Library & Information Systems	18	1494	34
Science	18	1512	35

Aslib Journal of Information Management	17	1529	36
Herald of Library Science	17	1546	37
Library Hi Tech News	17	1563	38
Online Information Review	15	1578	39
Chinese Librarianship an International Electronic Journal	14	1592	40
IFLA Journal	14	1606	41
New Library World	14	1620	42
PLoS ONE	14	1634	43
Serials Librarian	14	1648	44
International Journal of Human Resource	13	1661	45
Current science	12	1673	46
D-Lib Magazine	12	1685	47
Information Research	12	1697	48
Research Policy	12	1709	49
Electronic Library	11	1720	50
Journal of Applied Psychology	11	1731	51
Library Quarterly	11	1742	52
Malaysian Journal of Library and Information Science	11	1753	53
Computers & Education	10	1763	54
Information Development	10	1773	55
International Journal of Scientific and Research Publications	10	1783	56
Libri: International Journal of Libraries and Information Services	10	1793	57
6 Journals with 9 Citations	9	1802	58-63
6 Journals with 8 Citations	8	1855	64-69
11 Journals with 7 Citations	7	1902	70-80
12 Journals with 6 Citations	6	1978	81-92
23 Journals with 5 Citations	5	2049	93-115
30 Journals with 4 Citations	4	2163	116-145
74 Journals with 3 Citations	3	2282	146-219
174 Journals with 2 Citations	2	2503	220-393
523 Journals with 1 Citations	1	2850	394-916

Table 5 illustrates a total of 916 journals and their corresponding citation counts. The table provides details on the names of core journals, number of citations, cumulative citations, and rank of Journals, aimed at assessing Bradford's distribution (Leimkuhler FF, 1967) within field of Library and Information Science. This distribution is based on Samuel Clement Bradford's Law (Vickery, 1948), which posits that journals in a given field can be divided into three distinct zones, each comprising approximately one-third of the total citations: 1) a core set of a few journals, 2) a second zone with a larger number of journals, and 3) a third zone containing the majority of the journals. The ratio of journals follows the distribution pattern of 1: n: n^2. For the current research, a total of 3,372 citations have been organized into three equal zones, as presented in Table 6.

Table 6. Scattering of Journals and Citations over Bradford's Zone

Zone	No of Journals	% of Journals	No of Citations	Cumulative No of Citations	% of Citations	Bradford Multiplier
1	17	1.86	1141	1141	33.84	1.00
2	125	13.65	1126	2267	33.39	7.35
3	774	84.50	1105	3372	32.77	45.53
All	916	100.00	3372		100.00	

The zones established follow an approximately geometric progression in the ratio of 1: n: n^2. The average value of Bradford's multiplier is calculated as n = 26.94, based on the formula [(1+7.35+45.53)/2].

1: n: n2:: 17: 17*26.94: 17*$(26.94)^2$

17:457.98:12337.9812 = 12812.96

The percentage error $= \frac{12812.96-916}{916}$ x100

$\frac{11896.96}{916}$ x100

=12.99x100

Due to the significant percentage error, the data does not fit into Bradford's Law. Furthermore, Table 6 illustrates the relationship of each zone using the following equations:

F = 1: n: n^2 'F' = Finding
R = 17:457.98:26.94 'R' = Result $(26.94)^2$ = 725.76 E
= 17:457.98:26.94 'E' = Expected Result So that
1:7.35:45.53ǂ 1:n:n^2

6.5.1. VERIFICATION OF BRADFORD LAW THROUGH THE LEIMKUHLER MODEL

In the context of the Leimkuhler Model for Bradford's distribution, the identification of core journals with unique references in the first zone occurs initially. Following this, Bradford's multiplier (k) is calculated. The Leimkuhler Model serves as a measure of size-frequency distribution. The number of journals in the subsequent zones is then determined by applying multiples of Bradford's multiplier. The multiplier (k) for the Leimkuhler distribution is computed using Egghe L., mathematical approach. This research explains the Leimkuhler Model within the framework of the verbal interpretation of Bradford's Law:

"R(r)=a log (1+br) r=1,2,3 (1)

Egghe explained the Leimkuhler model as follows:

$a = \frac{y_o}{log\ k}$ (2)

$b = \frac{K-1}{r_o}$ (3)

Here, r_o represents the number of sources in the first Bradford zone, y_o denotes the number of items in each Bradford zone, and k is the Bradford multiplier.

R(r) is the cumulative number of items produced by sources ranked 1, 2, 3,...r, while a and b are constants that appear in the Leimkuhler model.

$$k = (e^y\, y_m)^{\frac{1}{P}} \quad (4)$$

$k = (1.781)^{\frac{1}{P}}$

Therefore, Bradford's multiplier 'k' value is determined as:

y_m = 416 (Number of items in the most productive sources)

$k = (1.781\ x\ 416)^{\frac{1}{3}}$

= 9.05

$y_o = \frac{A}{P}$

'A' = 3372 (Total number of Citations)

'p' = 3 (Number of Zones)

Therefore $y_o = \frac{3372}{3}$

=1124

This is followed by the calculation of r_o, which is determined as follows:

$$r_o = \frac{T(K-1)}{(K^p-1)}$$

T= Total number of journals
'k'= Bradford's multiplier

$$= \frac{916(9.05-1)}{(9.05^3-1)}$$

$$= \frac{916\times8.05}{(741.22-1)}$$

$$= \frac{7373.8}{740.22}$$

= 9.961

$$a = \frac{y_o}{log\ K}$$

Now, log k = 9.05, thus

$$= \frac{1124}{log\ 9.05}$$

$$= \frac{1124}{0.957}$$

= 1174.50

$$b = \frac{K-1}{r_o}$$

$$= \frac{9.05-1}{9.961}$$

$$= \frac{8.05}{9.961}$$

=0.81

Thus $r_1 = r_o$ x k

= 9.961x9.05

= 90.14

$r_2 = r_o$ x k^2

=9.961 x $(9.05)^2$

=9.961 x81.9025

= 815.83

Consequently, the number of journals in the core r_o is 9.961, with the mean value of the Bradford multiplier (k) determined as 9.05. Therefore, the Bradford distribution, as modelled by the Leimkuhler equation, can be expressed as:

$r_o : r_o$ *k: r_o *k^2

= 9.961: 9.961*9.05: 9.961 $(9.05)^2$

= 9.961:90.14: 815.83

= 915.931

Therefore % error from the real count:

$^{\%}$ error= $\frac{916-915.931}{916} x100$

=$\frac{0.029}{916} x100$

= 0.0032%

7. FINDINGS

The 20 dissertations uploaded by Banaras Hindu University on Shodhganga received a total of 5,085 citations, of which the majority of citations (38.8%) were from the period 2010-2019, showing a strong preference for current literature. Journals were the most cited sources at 66.31%, followed by books (17.56%) and online resources (5.98%). Single-authored papers were cited the most (49.38%), followed by papers authored by two people (28.36%). There was a notable preference for current publications, with 70.4% of citations coming from literature published after the year 2000. The half-life of journal citations is 9.68 years. This means that half of the journal citations are from sources published within the last 9.68 years. The analysis revealed that the data deviated from Bradford's Law due to a significant error margin. However, the Leimkuhler model demonstrated a more precise representation of the journal distribution.

8. DISCUSSION

The results of this study show that doctoral research in LIS at BHU is significantly reliant on current sources, particularly academic journals. The high citation rate of journals suggests that scholarly papers play an important role in shaping LIS research at BHU. The emphasis on single-author publications matches traditional academic authorship norms, however multi-author papers also demonstrate relevance in the subject. The data's failure to correspond to Bradford's Law implies that citation patterns in LIS may be altered by unique circumstances such as resource availability and study themes.

9. CONCLUSION

This citation analysis of BHU's LIS doctorate theses gives useful information regarding research trends and the university's intellectual impact in the discipline. The heavy dependence on current literature and journal articles reflects the dynamic character of LIS research, while authorship patterns show a balanced mix of individual and collaborative efforts. Although Bradford's law was not completely applicable, the Leimkuhler model provided a more detailed understanding of citation distribution. This study emphasises the importance of continuously evaluating citation trends in order to optimise BHU's research programs and library resource management.

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