

Analytical Study of International Journal of Information Dissemination and Technology (2017-2021)

Mahendra Kumar

Department of Library and Information Science

Dr. Harisingh Gour University

Madhya Pradesh, India

E-mail: mahendrak@dhsu.edu.in

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Abstract-Purpose: *The main purpose of this study is to examine the analytical patterns of the literature published in the international journal of information dissemination and technology on the basis of citation analysis and to analyse the articles published from the year 2017-2021. Results show that total 218 articles referred 1289 citations in which journals are the most favourable form of documents with the contribution of 54.46%.*

Materials and methods: *For the present study International Journal of Information Dissemination and Technology has been selected as the source journal. (IJIDT) is a quarterly refereed/juried journal for information scientist/professionals and knowledge managers. All the lead articles and research paper of five volumes (Vol 7-Vol 11) containing 20 issues published during 2017-2021 have been taken up for the study. Statistical tools, like tabular presentation of various data, line diagram, bar diagram and pie diagram are used to represent the study effectively.*

Findings: *From this study the major findings are: The number of papers in various volumes in IJIDT from 2017-2021, the maximum articles are published in 7 volume i.e. 56 (25.68%) and the lowest number of contributions are 35 (16.05%) in the volume 11. Maximum number of references is found in 96 articles cite 11-15 references with 44.03% followed by 6-10 references with 19.26% and 0-5 and 16-20 references with 12.84% respectively both. The distribution of bibliographical forms of cited documents preferred journals as the source of information. Journals contribute highest citations with 702 (54.46%) followed by web resources with 296 (22.96%) and books with 182 (14.11%). Citations from theses/dissertations are marginal. Here, others include seminar proceedings and report etc. Two authors papers are the most with 73 articles (34.43%) followed by single authors with 64 articles (30.18%) and three authors with 42 articles (19.81%). There are small percentages of articles published by more than five authors with 4 articles (1.88%).*

Value: *It is expected that citation methods are used in studies of properties and behaviour of recorded knowledge for analysis of the structures of scientific and research areas.*

Keywords: Citation analysis, Authorship pattern, Subject trends, Cited documents pattern, Scattering pattern of journals, Bradford's law

Introduction

The citations in scholarly works mean the documents which are referred and quoted by the author for his writing. Citations given by authors provide an indication of what form of reading material and how much of them are being used to support their findings. These references are supposed to identify those earlier researchers whose concepts the author has used to shape his own research. The citations appear in various forms such as references, bibliographies, notes, further readings. Citation Analysis is a technique which involves the process of collection, counting, analysis and interpretation of citations given in research writing and thereby helping in identification of significant sources of information. It can be used for identifying the core periodicals and the characteristics features of a discipline such as authorship pattern and scattering of literature in different bibliographical forms etc. Citation studies reveal much about scholarly communication. The present study is an attempt to analyse the characteristics of cited references in the International Journal of Information Dissemination and Technology (IJIDT) which has been recognized as one of the most important International sources in the field of Library and Information Science profession.

International Journal of Information Dissemination and Technology (IJIDT) is a quarterly refereed/juried journal for information scientist/professionals and knowledge managers. IJIDT invites articles on original research work related to information- management, dissemination, communication, networking, information system and technologies, knowledge and data management, record and archives management, integrated library systems, e-contents/e-books digital collections, digital preservation, artificial intelligence etc. The Journal is published quarterly in the month of March, June, September and December.

IJIDT is a peer-reviewed journal and follows a double blind review process. All papers submitted to this journal undergo a preliminary review at the editorial desk and those considered appropriate will be also be reviewed by experts in the concerned subject area [1]. On the recommendation of editorial board, the article may be rejected or assigned to the reviewers. The peer review process would entail approximately 2-4 months. Indexed/Abstracted with-Indian Citation Index, Google Scholar, CNKI Scholar, EBSCO discovery and summon. At present Ashok Kumar Garg is the principal Editor of the journal since 2017, the full text of the articles is available as open access mode on internet.

Materials and Methods

Deshmukh in his thesis examined agricultural doctoral theses through citation analysis and showed that the average number of citations per thesis is 131.43 and the journals are the most favoured documents for the researchers. The citations of the documents published in India amount to 58.46% followed by USA with 21.91%. Ramesh and Nagaraju showed that more citations were from the books and periodicals than the other type of materials. Besides, Dr. S.R. Ranganathan topped the list of cited authors and more than 90% citations were from library and information science journals. Chikate and Patil stated that LIS doctoral researchers used a multitude of disciplines including science, medicine, economics, philosophy etc for their research study. Furthermore, it was found that college and research libraries is the most cited form of documents with 70.48% citations and indian journal of agronomy contributed maximum references. They also inferred that references from web are not common at the present study [2]. Riahinia examined 140 contributions of 'Library Herald' journal and depicted that the topic 'digital issues and resources preferred subject during the study period followed by 'web related articles'. Gupta and Khare analysed the citations of 32 LIS doctoral theses and depicted that IASLIC bulletin is the most preferred journal among cited sources. It is found that journals and books are widely used format by the researcher. Haridarshan and

Khan in their citation analysis study revealed that majority of cited journals are online journals. There is a shift from citation to e-citation due to increase in the usage of internet and World wide web.

Objectives of the study

- To examine the quantitative distribution of articles by volume.
- To examine reference wise distribution of articles.
- To findout the forms of documents cited.
- To identify the authorship pattern of the journal.
- To compile a rank list of core cited journals.
- To examine the validity of Bradford’s law of scattering.

Data was collected from online version of journal available at the website (www.ijidt.com) of IJIDT in the archived form. The data obtained from the sources are recorded separately and then used MS-Word and MS-Excel to organize, tabulate and analyse the necessary data for the study. This data was used for analysis and interpretation [3]. The total no.of articles published between 2017-2021 is 218.

Data presentation and analysis

The author have tried to organize the data and analyse them according to issue, reference distribution, forms of cited documents, list of core cited journals and year wise publication of cited journals. The analysed data are then presented in tabulated form and explained with the help of graphs and diagrams.

Results and Discussion

Distribution of respondents by gender

Table 1 presents the issue wise distribution of articles during 2017-2021. It shows that the source journal publishes 218 articles citing total 1289 references. The average citation per article is 5.91. The maximum articles are published in 7 volume *i.e.* 56 (25.68%) and the lowest number of contributions are 35 (16.05%) in the volume 11 [4]. The yearly distributions of articles show that there is a decreasing trend in paper publications.

Table 1: Issue wise distribution of articles

Year	Volume	Issue				Total	%	Total references
		1	2	3	4			
2017	7	13	13	14	16	56	25.68	220
2018	8	12	14	12	10	48	22.01	206
2019	9	10	10	9	10	39	17.88	193
2020	10	11	10	10	9	40	18.34	342
2021	11	10	8	8	9	35	16.05	328
Total						218	100	1289

Reference wise distribution of articles

Table 2 and Figure 1 depict the reference wise distribution of articles. Maximum 96 articles cite 11-15 references with 44.03% followed by 6-10 references with 19.26% and 0-5 and 16-20 references with 12.84 % respectively both.

Table 2: Reference wise distribution of articles

No. of references	Articles	% (Percentage)	Cumulative percentage
0-5	28	12.84	12.84
6-10	42	19.26	32.1
11-15	96	44.03	76.13
16-20	28	12.84	88.97
21-25	13	5.96	94.93
26-30	7	3.21	98.14
31-35	2	0.09	98.23
>35	2	0.09	100
	218		

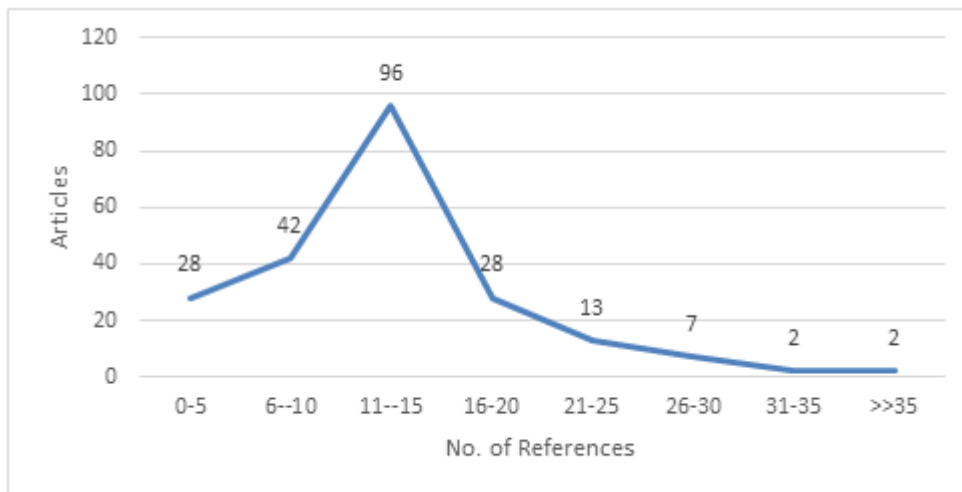


Figure-1: Reference wise distribution of articles

Forms of cited documents

Table 3 and Figure 2 shows the distribution of bibliographical forms of cited documents. The table reveals that majority of the contributors preferred journals as the source of information. Journals contribute highest citations with 702 (54.46%) followed by web resources with 296 (22.96%) and books with 182 (14.11%). Citations from theses/dissertations are marginal [5]. Here, others include seminar proceedings and report etc.

Table 3: Forms of cited documents

Forms	Number	%	Cum.%
Books	182	14.11	14.11
Journals	702	54.46	68.57
Web resources	296	22.96	91.53
Reference sources	58	4.49	96.02

Thesis/Dissertations	5	0.38	96.4
Seminar/Con. proceedings	27	2.09	98.49
Others	19	1.47	100
Total	1289		

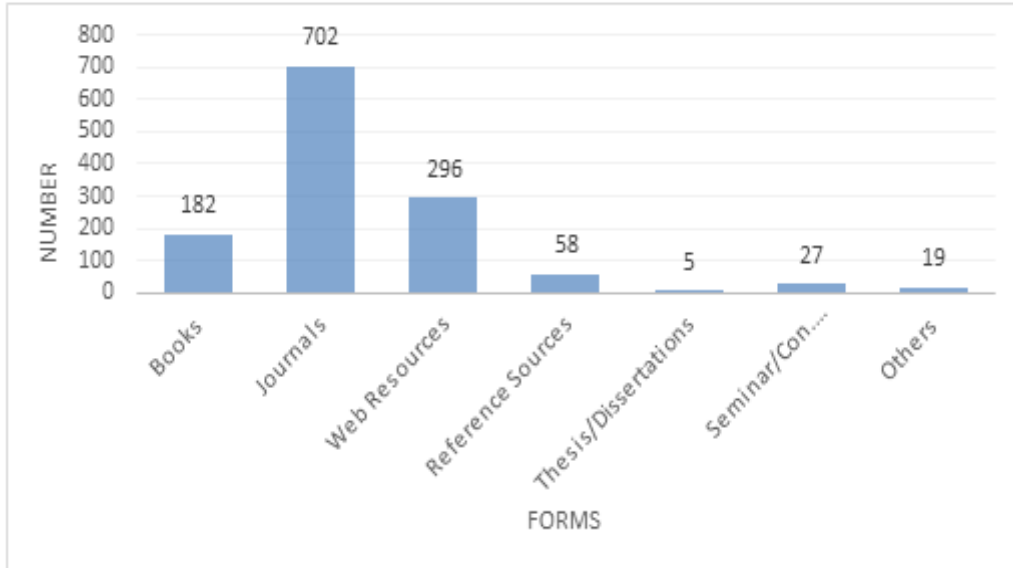


Figure-2: Distribution of bibliographical forms of cited documents

Authorship pattern of cited journals

Table 4 and Figure 3 depicts the authorship pattern of cited journals articles. It shows that maximum articles (73) are contributed by two authors with 34.43%.

This is followed by single authors with 64 articles (30.18%) and three authors with 42 articles (19.81%) [6]. There are small percentages of articles published by more than five authors with 4 articles (1.88%).

Table 4: Authorship pattern of cited journals

Authorship	Articles	%	Cum.%
1	64	30.18	30.18
2	73	34.43	64.61
3	42	19.81	84.42
4	21	9.9	94.32
5	8	3.77	98.09
More than 5	4	1.88	100
Total	212		

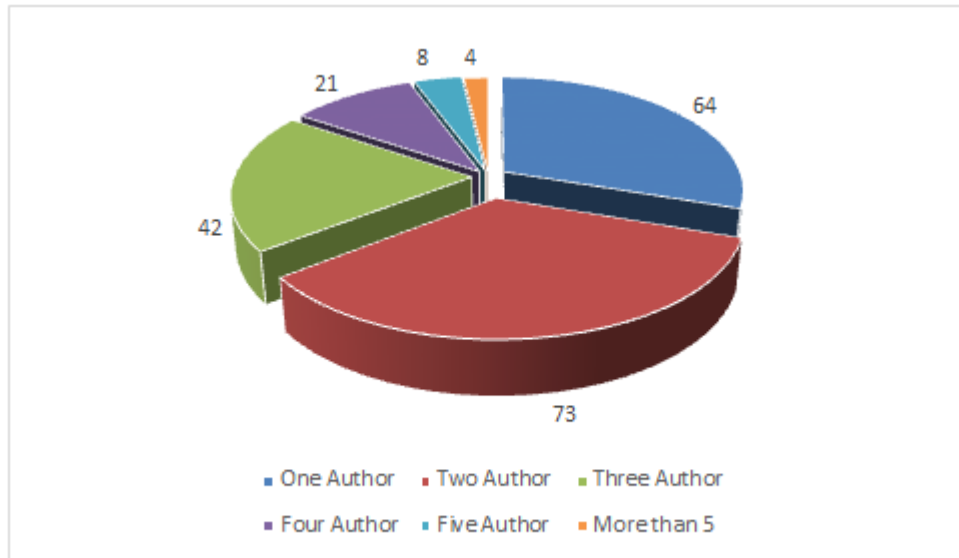


Figure-3: Authorship pattern of cited journals articles

Degree of collaboration in the journal

To determine the degree of collaboration in quantitative terms, the following formula by Prof. K. Subramanyam was used. The formula is:

$$\frac{C = NM}{NM + NS}$$

Where:

C=Degree of collaboration

NM=Number of multi authored papers

NS Number of single authored papers

IJIDT: In the present study of IJIDT journal, the value of C is:

$$\frac{C = 148}{148 + 64}$$

Hence the value of C is =0.698

The degree of collaboration shows that two author contributing research is prominent in this journal with an average degree of collaboration of 0.698.

Core cited journals

Table 5 shows the ranking list of cited journals. The table provides a list of 51 journals with 212 citations [7-10]. The Scientometrics is highly preferred journal with 28 citations, followed by Journal of the SRELS journal of information management with 16 citations.

Table 5: Ranked list of cited journals

Sl. no.	Rank	Name of the journals	No. of references	Cum. references	Percentage	Cum. percentage
1	1	Scientometrics	28	28	13.2	13.2
2	2	SRELS Jr. of information	16	44	7.54	20.74

		management				
3	3	Jr. of Indian library association	14	58	6.6	27.34
4	4	Library herald	12	70	5.66	33
5	5	International Jr. of info. dissemination and technology	11	81	5.18	38.18
6	6	Jr. of documentation	10	91	4.71	42.89
7	6	DESIDOC Jr. of lib. and info. technology	10	101	4.71	47.6
8	7	Library philosophy and practice	9	110	4.24	51.84
9	8	Annals of lib. and info. studies	8	118	3.77	55.61
10	8	Herald of lib. science	8	126	3.77	59.38
11	8	Jr. of lib. and info. science	8	134	3.77	63.15
12	9	Library review	7	141	3.3	66.45
13	9	Library hitech	7	148	3.3	69.75
14	10	Journal of the American society for information science and technology	6	154	2.83	72.58
15	11	2 journals having 5 citations	10	164	4.71	77.29
16	11	4 journals having 3 citations	12	176	5.66	82.95
17	12	5 journals having 2 citations	10	186	4.71	87.66
18	13	6 journals having 1 citation	6	192	2.83	90.49
19	13	7 journals having 1 citation	7	199	3.3	93.79
20	14	13 journals having 1 citation	13	212	6.13	100
		Total=51 Journals	212		100	

Application of Bradford's law to citation data

In 1934, S.C. Bradford formulated a law to describe the distribution of articles on a particular subject in different journals (Table 6). According to Bradford law, if scientific journals are arranged in order of decreasing productivity of articles on a given subject, they may be divided into a nucleus of periodicals more particularly devoted to the subject and several groups or zones containing the same number of articles as the nucleus and succeeding zones will be as $1:n:1n^2$.

In the present study, first 7 journals cover 101 citations; next 11 journals cover 33 citations and the next 51 journals cover 78 citations [11-13]. In other words, the 1st zone of nucleus contains 7 journals followed by second zone containing 11 journals and the third zone having 33 journals [14,15]. The zones will form an approximate series in the form:

7: 11: 33

7: 7×2 : $7 \times 2 \times 2$ Here $n=2$ is a multiplier

Hence, 7: $7n$: $7n^2$

Where 1st 7 represent number of journals in the nucleus. Here, the Bradford's law is not justified.

Table 6: Scattering of journals and citations over Bradford's law

Zones	Number of journals	% of journals	No. of citations	% of citations
1	7	13.72	101	47.64
2	11	21.56	33	15.56
3	33	64.7	78	36.79
Total	51	100	212	100

Conclusion

The present citation study reveals that total 218 articles are published in the source journal during the study period and the maximum 96 articles cite 11-15 references. Journals are the most favourable form of documents in research and the ranked list of cited journals depicts that the two foreign journals titled, scientometrics, SRELS journal of information management and journal of Indian library association top the list.

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