

Scholarly Communication of DESIDOC Journal of Library & Information Technology (DJLIT): a Scientometric Approach

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ABSTRACT

An attempt has been made to evaluate the each article, year wise distribution of contributions, and number of authorship, volume wise authorship, author's productivity and the single and multi-authored papers of the journal. The results revealed that out of 302 articles, the majority of 236 (41.11 %) appeared as two authors. The majority 267 (88.41 %) of contributions are from India and it was noticed that the degree of collaboration ranges from 0.36 to 0.77 in DJLIT and the average degree of collaboration is 0.59. It was found that the maximum five in number of special issues published in the year 2012.

Keywords: Bibliometrics; Authorship Pattern; Degree of Collaboration; Data analysis; DESIDOC; DRDO; India.

Source Journal

For the present study, DESIDOC Journal of Library and Information Technology (DJLIT) has been taken into consideration as a source journal. This journal formerly known as DESIDOC Bulletin of Library and Information Technology Journal (DBIT) is a well-known peer reviewed open journal in the field of library and information science (LIS) and is being published since 1981. It is publishing topics relevant to the library and information science, like articles, documentation notes and research reviews on library, documentation and information science, information systems, services and products, information technology, information users, bibliometrics, scientometrics and informatics, education and training and other related areas. The Journal is indexed by Scopus, LISA, LISTA, EBSCO Abstracts/Full-text, Library Literature and Information Science Index/Full-text, The Informed Librarian Online, DOAJ, Open J-Gate, Indian Science Abstracts, Indian Citation Index, Full text Sources Online, World Cat, Proquest, and OCLC.

Objectives of the Study

The main objectives of the study are as follows:

- To analyze the scholarly publications of DJLIT during the period
- To view the authorship pattern for a period of study
- To discover the year wise contributions of articles
- To learn about the period and volume wise authorship pattern

- To scrutinize the author's productivity
- To observe the single and multi-authored papers of the journal and
- To evaluate the Degree of collaboration

Review of Literature

Ginn (2003) has examined citation analysis of authored articles in library and information science research during the period between 2001 and 2002, and the results were found that citations of articles published in scholarly journals would be greater in number than citations of any sources and Journal article citations increased both in quantity and percent from 2001 to 2003. Papadimitriou and Kidman (2012) have analyzed the developments and changes in geographical and environmental education as reflected in the journal IRGEE, after performing statistical and Scientometric analyses on the basis of the content analysis of IRGEE for the period 1992-2009. Gupta, Bala and Kshitig (2013) conducted the research on the global publications output in cataract research during 2002-11. To retrieve the data Scopus Citation Database used during the period. The results were found that the world publication output in cataract research consisted of 27053 papers during 2002-11, which increased from 2025 papers in 2002 to 3080 papers in 2011, witnessing an annual average growth rate of 4.89%. The average citation impact per paper registered by world publications was 6.94 during 2002-11.

Velmurugan (2013) investigated the bibliometric analysis of 203 articles appearing in Annals of Library and Information Studies journal selected six years for a period between 2007 and 2012. The highest number of contributions i.e., 43 (21.19 %) were published in the year 2010. It was found that the most of the contributions are by two authored i.e., 88 (43.35 %). It was also noted that out of 203 articles single author contributed only 72 (35.46 %) articles while the rest 131(64.54 %) articles were contributed by joint authors. The degree of collaboration ranges from 0.57 to 0.82 and the average degree of collaboration is 0.64. The total average number of authors per paper is 1.87 and the average productivity per author is 0.53.

Velmurugan (2013) studied the bibliometric analysis with special reference to authorship pattern and collaborative research work of Journal of Intellectual Property Rights (JIPR) for selected six years between 2007 and 2012. The study dealt with authorship pattern, volume wise and issue wise authorship, author's productivity and the single and multi-authored papers and average citations, page distribution, rank wise geographical distribution of publications. The results of the study was found that the highest number of contributions i.e., 56 (19.79 %) were published in the years 2012. The degree of collaboration in this journal is 0.34. Velmurugan (2014) has explored the research trends in IJPAP. The study analyzed with five hundred and forty six research articles produced and selected four years between January 2009 and December 2012. The findings of the results revealed which the maximum quantity of publications 149 (27.29 %) have been contributed by 2012 and 121 (22.17 %) the least quantity were contributed by 2011. The uppermost quantity of author outputs 420 (6.56) contributed in 2010.

Velmurugan and Radhakrishnan (2014) have examined research trends on the journal namely IETE Technical Review for the year 2007 and 2012 by way of Scientometric analysis in which various parameters covered such as authorship pattern, degree of collaboration, relative growth rate and doubling time and also geographical wise distribution of contributions and the findings revealed that the relative growth rate had increased from 2007 to 2012 (i.e. 0.76 to 1.96) and the doubling time had somewhat decreased as measured chronology wise. In this paper, an attempt has been made to analyze the contributions to *DESIDOC Journal of Library & Information Technology* published during the year 2007 –

2012, in order to explore the authorship pattern, collaborative research, keywords and citation of the papers among the contributions.

Methodology

A total of 36 issues of DJLIT Journal have been taken for the study. The data was collected from the official website of DESIDOC Journal of Library & Information Technology (DJLIT). Three hundred and two issues of six volumes by selected six years between 2007 and 2012 for this present study. The details regarding each published article such as title of the article, number of authors, their institutional affiliations and addresses, number of references with list, page number, number of tables and figures etc., were recorded and analyzed for making observations.

Limitations of the study

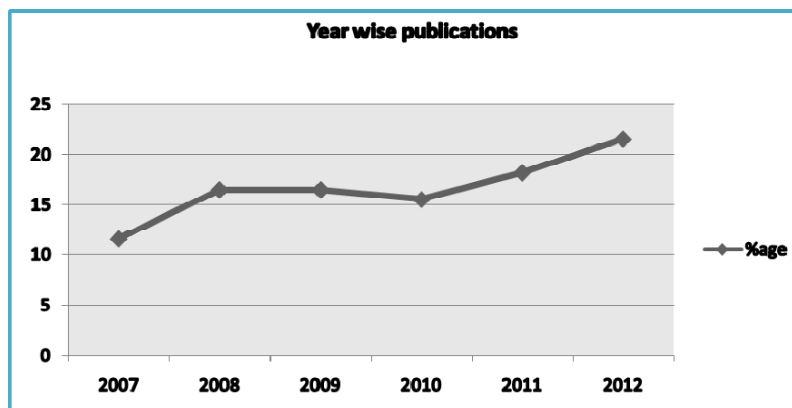
This study is limited to research papers published in DJLIT between January 1st 2007 and December 31st, 2012, covers only 302 articles of 36 issues published.

Analysis and Results

Researchers has made an analysis of data to identify the year-wise distributions of articles have been arranged in which the highest number of contributions i.e., 65 (21.53 %) were published in the year 2012 whereas the minimum number of 35 (11.58 %) was published in the year 2007 (Table 1 Graph 1).

Table 1: Distribution of publications by year

Year	Vol	No of articles	%age
2007	27	35	11.58
2008	28	50	16.55
2009	29	50	16.55
2010	30	47	15.57
2011	31	55	18.22
2012	32	65	21.53
Total		302	100



Graph.1: Year wise publications

Table 2: Authorship pattern of papers published by year

Authors	Year						Total	%age
	2007	2008	2009	2010	2011	2012		
Single Author	18	32	16	14	12	29	121	40.07
Two Authors	9	10	21	25	24	29	118	39.08
Three Authors	4	5	8	5	14	10	46	15.23
More than three	2	3	4	2	3	3	17	5.62
Total	33	50	49	46	53	71	302	100

Table 2 depicts that authorship pattern of articles published during the study. Out of total of 302 articles, the maximum number of contributions i.e. 121 (40.07 %) have been contributed by Single author and followed by 118 contributions (39.07 %) and 46 contributions (15.23 %) and the minimum number of contributions i.e. 17 (5.62 %) by more than three authors only.

Table 3: Authorship Pattern of Publications (Volume – wise)

Vol. No	Author 1	%age	Author 2	%age	Author 3	%age	Author >3	%age
27	18	14.87	9	7.62	4	8.69	2	11.77
28	32	26.45	10	8.47	5	10.87	3	17.64
29	16	13.23	21	17.80	8	17.39	4	23.53
30	14	11.57	25	21.19	5	10.87	2	11.78
31	12	9.92	24	20.34	14	30.45	3	17.64
32	29	23.96	29	24.58	10	21.73	3	17.64
Total	121	100	118	100	46	100	17	100

Table 3 shows the trends in authorship pattern in which the highest numbers of contributions in the category of single authorship are contributed in volume 28 which are 32 (26.45%) while the lowest number of contributions in single authorship in vol. 31 i.e. 12 (9.92 %). Out of 118, the highest number of two authored papers in vol. 32 i.e. 29 (24.58 %) while in the lowest number of contributions are contributed in vol. 27 i.e. 9 (7.62 %) and out of 46, the highest number in the category of three authored contributions in vol. 31 i.e. 14 (30.45 %) whereas the lowest number of contributions in vol. 27 i.e. 4 (8.69 %).

Table 4: Authorship Pattern with Cumulative Distribution of articles

Authorship	No of Publications	Cumulative contributions	%age
Single Author	121	121	21.08
Double Authors	118	236	41.11
Three Authors	46	138	24.05
More than Three Authors	17	79	13.76
Total	302	574	100

Table 4 represents the detail about the authorship pattern with cumulative contributions in which out of the total of 302 articles, the majority of 236 (41.11 %) appeared as two authors and followed by 138 (24.05 %) as three authors; 121 (21.08 %) as single author and only 79 (13.76 %) have published the articles by more than three authors.

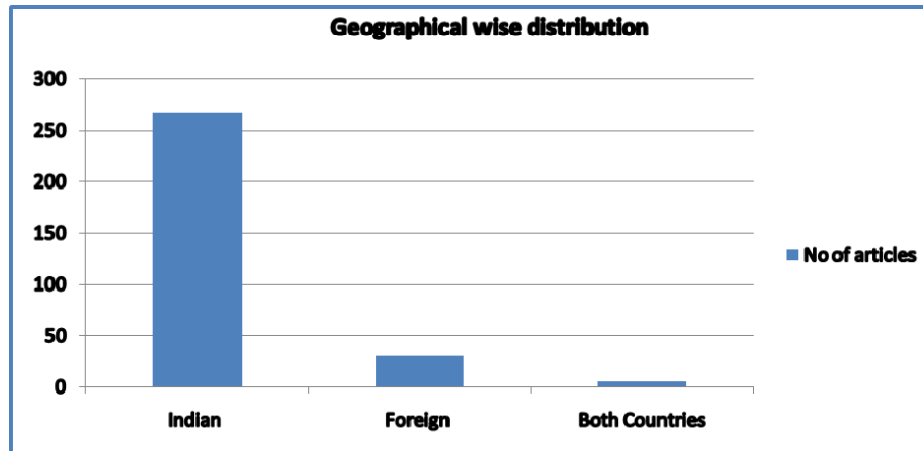
Table 5: Authorship pattern of single and joint contributions

Years	2007	2008	2009	2010	2011	2012	No of Articles	%age
Single	18	32	16	14	12	29	121	40.07
Joint	15	18	33	32	41	42	181	59.93
Total	33	50	49	46	53	71	302	100

Table 5 represents the details about the data that out of 302 articles single author contributed only 121(40.07 %) articles while the rest 181 (59.93 %) articles were contributed by joint authors. It showed that the majority of the articles have been contributed only by multiple authors.

Table 6: Geographical wise distribution

Country - wise	No of articles	%age
Indian	267	88.41
Foreign	30	9.94
Both Countries	5	1.65
Total	302	100



Graph 4: Geographical wise distribution

Table 6 showed that the majority 267 (88.41 %) of contributions are from India and was followed by 30 (9.94 %) of contributions from foreign and only 5 (1.65 %) contributions by both of them.

Table 7: Degree of Collaboration

Year	Ns	Nm	DC
2007	18	15	0.45
2008	32	18	0.36
2009	16	33	0.67
2010	14	32	0.69
2011	12	41	0.77
2012	29	42	0.59
Total	121	181	0.59

Table 7 identifies the degree of collaboration of authors in DESIDOC Journal of Library & Information Technology. It was calculated using Subramanian's formula: $C = \frac{Nm}{Nm + Ns}$, where C=degree of collaboration, Nm=number of multi-authored works, and Ns=number of single-authored works. It was found that the degree of collaboration ranges from 0.36 to 0.77

in DJLIT and the average degree of collaboration is 0.59. The degree of collaborative research is seems to be varied from every year during the period between 2007 and 2012.

Table 8: Types of Publication Cited

Publication Type	No of Citations	%age	Cumulative	%age
Journals	1978	46.29	1978	46.29
e- Resources	879	20.58	2857	66.86
Books	656	15.36	3513	82.21
Conference Proceedings	542	12.68	4055	94.89
Reports	177	4.14	4232	99.04
Theses / Dissertations	20	0.46	4252	99.50
Standards	15	0.35	4267	99.85
Others	6	0.14	4273	100
Total	4273	100		

Graph 5: Types of Publication Cited

Table 8 Graph 5 shows that the type of documents was cited by the research scholars. It points out that the maximum preferred source of cited documents are journals i.e. 46.29 % which are in number 1978 out of 4273 citations. e- Resources, Books and Conference proceedings had 879 (20.58 %); 656 (15.36 %); 542 (12.68 %) respectively.

Table 9: Length of paper Published

Length of Papers	No. of Contributions	%age
1 to 5	56	18.54
6 to 10	202	66.88
11 to 15	33	10.93
15 and above	11	3.65
Total	302	100

The number of pages of each article was counted to scrutinize the length of the contributions. It was observed that the highest number of pages (66.88 %) of the articles was of 6 to 10 pages in length and followed by 18.54 % articles had page length from 1 to 5 and 10.93 % were of 11 to 15 pages in length and only 3.65 % articles had more than 15 pages (Table 9 Graph 6).

Findings

The study has been evaluated the contributions to *DESIDOC Journal of Library & Information Technology* published during the year 2007 – 2012 in which covered the 302 articles under 36 issues. The highest number of contributions i.e., 65 (21.53 %) were published in the year 2012 whereas the minimum number of 35 (11.58 %) was published in 2007. Out of 302 articles, the majority of 236 (41.11 %) appeared as two authors and the minimum number i.e. only 79 (13.76 %) have published the articles by more than three authors. The majority 267 (88.41 %) of contributions are from India and was followed by 30 (9.94 %) of contributions from foreign and only 5 (1.65 %) contributions by both of them. It was noticed that the degree of collaboration ranges from 0.36 to 0.77 in DJLIT and the average degree of collaboration is 0.59. It was found that the maximum five in number of special issues published in the year 2012. The maximum preferred sources of cited documents are journals i.e. 46.29 % which are in number 1978 out of 4273 citations. It was observed that the highest number of pages (66.88 %) of the articles was of 6 to 10 pages in length.

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