

BIBLIOMETRIC ANALYSIS OF DESIDOC JOURNAL OF LIBRARY AND INFORMATION TECHNOLOGY DURING 2011-2015

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Abstract *DESIDOC Journal of Library and Information Technology (DJLIT) has been considered one of the most important journal in the field of Library and Information Science. The present study covers year-wise published papers, special issue, authorship pattern, degree of author collaboration, author productivity, state-wise distribution of authors, country-wise distribution of authors, major contributors, length of papers, cited references, subject-wise published papers in DJLIT during the period of 2011-2015. The study reveals that 310 papers were published in 30 issues of 5 volumes during 2011-2015. 70 (22.58%) papers in great numbers are published in volume no. 32 in 2012, 193 (62.26%) papers are published in special issues, 132 (42.58%) contributed their papers as two-authored and 119 (38.39%) contributed as single author, average author productivity per author is 0.54 during 2011-2015, Delhi state 107 (18.54%) authors are great in number out of 577 authors, 502 (87%) Indian and 75 (13%) foreign authors contributed their papers.*

Keywords: *Bibliometric, Bibliometric Analysis, DESIDOC Journal of Library & Information Technology, DJLIT, Authorship Pattern*

INTRODUCTION

The terms bibliometrics term was firstly used by Pritchard in his article 'Statistical Bibliography or Bibliometrics' published in the 'Journal of Documentation' in the year 1969. According to Pritchard (1969), bibliometric is defined as "the application of mathematics and statistical methods to books and other media of communication."¹ Bibliometric study is a simple statistic method of bibliography counting to evaluate and quantify the growth of a subject. Journals are the most ideal means of latest information; scholarly journals are consulted by the scientists, faculty members, research scholars and professionals to share their ideas, thoughts, inventions, innovations, and discoveries. Libraries and Information centres ensure the flow of information and provide support services like acquisition, circulation, reference, delivery, downloading etc., to users in academic and research organisations, universities, policy making bodies, planning and research units, business and industry, etc.² DESIDOC Journal of Library & Information Technology (DJLIT) is being published since 1981. It is a peer-reviewed, bimonthly, open access journal that enhances user information about the recent developments in the discipline of library and information science. The Journal covers original research and review articles related to library science and information technology which are applicable in library and information centres. 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.³

REVIEW OF LITERATURE

Some of the studies related to the present study are as under:

Bansal (2013)⁴ in her study on DESIDOC Journal of Library & Information Technology reveal that 391 papers were published during the period of study (2001-2012). 65 maximum numbers of articles are published in 2012. 61.4% the maximum number of contributions are joint collaborators. 88% Most of the contributions are from India and 12 % are foreign contributions. The study shows that majority of the authors preferred journals as the source of information providing the highest number of citations. Dr BM Gupta has published maximum number of articles (26) in the Journal during the period under study. The maximum number of articles (65 %) has the length of 6-10 pages. Maximum numbers of special issues (5) are published in 2012.

Baskaran (2013)⁵ in his study on research productivity of Alagappa University during 1999-2011 reveals that in 1999 (3.99%) publications were published, in 2004 and 2005

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(7.47%) were published and in 2011 (12.5) were published. The study observed that there is less than 5 % of publications brought from 1999 to 2001, and less than 10 % of publications are published between 2002 and 2008 and more than 10 % of publications occurred during 2009 to 2011.

Das (2013)⁶ in his study on *Journal of Informetrics* shows that 30% contributions are the single author, 36% contributors are the two-authors, while average authorship accounts for 2.28 per communications. Degree of collaboration (DC) is impressive with 0.699 but not overwhelming as research collaborations has emanated from 199 higher learning institutions of 32 countries across the globe. Ranking of prolific contributors has shown Prof. Egghe on the top followed by L Bornmann; R Rousseau and L Leydesdoff.

Pandita (2013)⁷ in his study on *Annals of Library and Information Studies (ALIS) Journal* shows that there was a steady increase in the number of articles published in each volume of the journal (from volume 49 to 59). Volume no. 57 has published highest 43 articles with average articles 10.75 per issue, which is better than 3.71 articles over 7.04 articles published on average in each issue during the entire decade. The study mention here that issue 3 of volume 57 was published as special issue as a tribute to Eugene Garfield, information scientist extraordinaire, on his 85th birthday, covering 15 articles.

Garg and Anjana (2014)⁸ in their study on *Journal of Intellectual Property Rights* reveals that 847 articles were contributed by Indian and foreign authors. Indian authors contributed 71 % of the articles and the rest 29 % are contributed by authors from abroad. Contributions from abroad are from 38 countries. USA contributed the highest number of papers followed by UK, China, South Korea and Switzerland. Sixteen countries contributed one paper each.

Mondal and Saha (2015)⁹ in their study of *Journal of Indian Library Association* during 2008-2014 reveal that total 115 articles from 21 issues were analysed. The 21.74% articles are published in volume number 49, 18.26% are in vol. no. 50 and lowest 8.7% are published in vol. no. 46. The study shows that 192 authors are contributed their articles in JILA during 2008-2014. 44.35% articles are contributed by single and two authors and 11.30% contributed by three authors.

Naheem (2016)¹⁰ in his study on *Library Progress (International)* reveals that 131 articles were contributed by 243 authors from various Indian states and abroad. Articles in the year 2011 has the highest number of articles with 32 (24.43) percent of the total papers. The lowest number of articles are published in the year 2014 i.e., 12 (9.16) percent. In year 2011 stood first with 61 (25.10) percent of the total number of authors. The lowest contributors are in

the year 2014 i.e., 21 (8.64) percent. 53.44% contributors of articles are two-authors, 31.30% are single author, The average number of authors per paper is 1.85 and the average productivity per author is 0.54. 17 states from India have contributed the articles and from 3 foreign countries.

Singh and Chander (2016)¹¹ in their study on publication output of *Indian Journal of Traditional Knowledge* shows that 671 articles were published from 2009-2014. 139 (20.72%) maximum articles are published in volume 9 during the year 2010 and the least articles are published in volume 13 i.e. 96 (14.30%) during the year 2014. The study indicates that 44% highest number of articles are multi authored, 31% are two authored.

OBJECTIVES OF THE STUDY

Objective of the study will be following as:

- To find out year, volume and issue wise distribution of published papers.
- To study special issues of DJLIT.
- To examine author-wise pattern of published papers.
- To find out published papers of Indian and foreign authors.
- To find out the length of the published papers.
- To examine the author productivity.
- To study the cited references included in the published papers.
- To study the subject-wise distribution of the published papers.

SCOPE AND METHODOLOGY

The present bibliometric study is limited to only 310 articles published in 'DESIDOC *Journal of Library and Information Technology (DJLIT)*' during 2011-2015. It also includes the editorial paper and special issues papers. All the 310 papers are retrieved from the archive of the journal website (publications.drdo.gov.in/ojs/index.php/djlit). The papers were downloaded, organized, tabulated and analysed in MS-Word and MS-Excel for their evaluation.

DATA ANALYSIS AND INTERPRETATION

310 papers from 30 issues during 2011-2015 retrieved from the journal website are considered for analysis and interpret. The analysed data is presented in tabulated form and explained clearly.¹²

Table 1: Year-wise Distribution of Papers in DJLIT during 2011-2015

Year	Volume	Issue						Total	Percentage %
		1	2	3	4	5	6		
2011	31	8	9	7	14	10	10	58	18.71
2012	32	11	11	13	13	12	10	70	22.58
2013	33	13	10	10	12	9	11	65	20.97
2014	34	9	12	11	10	10	11	63	20.32
2015	35	9	8	11	10	8	8	54	17.42
Total								310	100

The table 1 shows that the distribution of papers in the DJLIT during 2011-2005. Total 310 papers were published in 30 issues of 5 volumes. The maximum 70 (22.58%) papers are

published in the volume number 32, 65 (20.97%) in vol. no.33, 63 (20.32%) in vol. no. 34, 58 (18.71%) in vol. no. 31 and lowest 54 (17.42%) papers are in vol. no. 35.

Table 2: Special Issues of DJLIT Brought Out during 2011-2015

Year	Volume	Issue No.	Theme of the Special Issue	Guest Editor
2011	31	2	Ontology	Pratibha A. Gokhale
		4	Semantic Web	Sumit Goswami
		5	Scientometrics	Gangan Prathap, B.M. Gupta
2012	32	1	Agricultural Information Systems and Services in India	K.P. Singh
		2	E-Books	C.K. Ramaiah
		3	Intellectual Property Rights	Anil W. Hirwade
		4	Digital Preservation	Ramesh C. Gaur
		5	Open Source Software for Libraries	Shalini R. Lihitkar
2013	33	1	Corporate Social Responsibility and Public Libraries	P.S.N. Murthy
		2	Health Information Systems and Services	H.S. Siddamalliah
		3	Applications of Online Exhibitions	C.K. Ramaiah
		4	Knowledge Organisation	Jagtar Singh
2014	34	2	Trends in Online Exhibitions	Chennupati K. Ramaiah
		3	Indian Contribution in Scientometrics	B.M. Gupta
		6	Embedded Librarianship: Changing Role of Librarian in Digital Age	Ramesh Chandra Gaur
2015	35	3	Libraries and Librarianship: Status, Issues and Trends	Jaideep Sharma
		4	Libraries and Librarianship in India: Status, Information Technology Applications and Trends Part II	-

Table 2 shows that special issues of DJLIT during 2011-2015 are published under the editorship of eminent Library professionals from the reputed Institutions of the country.

Out of 30 issues during 2011-2015, 17 (56.67%) issues are special issues and 193(62.26%) papers are published in these special issues.

Table 3: Volume-wise Authorship Pattern in DJLIT during 2011-2015

Year	Volume	Authors					Total Articles	Total Authors	Percentage %
		Single	Two	Three	Four	Five			
2011	31	23	24	8	2	1	58	108	18.95
2012	32	28	30	10	1	1	70	127	22.01
2013	33	30	25	8	2	-	65	112	19.41
2014	34	21	28	9	5	-	63	124	21.49

Year	Volume	Authors					Total Articles	Total Authors	Percentage %
		Single	Two	Three	Four	Five			
2015	35	17	25	10	1	1	54	106	18.37
Total		119 (38.39%)	132 (42.58%)	45 (14.52%)	11 (3.55%)	3 (0.97%)	310 (100%)	577 (100%)	100

Table 3 shows that 132 (42.58%) contributors are two authored, 119 (38.39%) are single author, 45 (14.52%) are three authored, 11 (3.55%) are four authored and 3 (0.97%) are five authored. The study also reveals that maximum

127 (22.01%) authors contributed their paper in the year 2012, 124 (21.49%) in the year 2014, 112 (19.41%) in the year 2013, 108 (18.95%) in the year 2011 and lowest 106 (18.37%) in the year 2015.

Table 4: Degree of Author Collaboration in DJLIT during 2011-2015

Year	Volume	Single Authored Papers	Multi Authored papers	Total	Degree of Collaboration
2011	31	23	35	58	0.60
2012	32	28	42	70	0.60
2013	33	30	35	65	0.54
2014	34	21	42	63	0.67
2015	35	17	37	54	0.69
Total		119	191	310	0.62

Table 4 applies Subramanyam formula for calculating author's degree of collaboration in a discipline. The degree of collaboration among authors is the ratio of the number of papers published in a discipline during certain period of time. The degree of collaboration (collaboration coefficient) among authors is measured mathematically as;

$$C = \frac{N_m}{N_m + N_s}$$

Where, C is the degree of collaboration, N_m is number of multi-authored papers, and N_s is number of single-authored papers.¹³ As per Subramanyam formula, the degree of collaboration over the years from 2011-2015 is calculated and it varies from 0.54 to 0.69 and the average degree of collaboration is 0.62 which shows dominance of joint authorship.

Table 5: Author Productivity in DJLIT during 2011-2015

Year	Volume	Number of Papers	Number of Authors	AAPP(Average Author Per paper)	Productivity per author
2011	31	58	108	1.86	0.54
2012	32	70	127	1.81	0.55
2013	33	65	112	1.72	0.58
2014	34	63	124	1.97	0.51
2015	35	54	106	1.96	0.51
Total		310	577	1.86	0.54

Table 5 shows that the average number of author per paper is 1.86 for 310 contributions and the average productivity per author is 0.54. The maximum average author per paper

is 1.97 in the year 2014 and the maximum productivity per author is 0.58 in the year 2013.

Table 6: State-Wise Distribution of Authors in DJLIT during 2011-2015

Rank	State/Union Territory/ other Countries	Number of authors	Percentage %
1	Delhi	107	18.54
2	Maharashtra	77	13.34
3	Karnataka	66	11.44
4	Andhra Pradesh	39	6.76
5	Kerala	24	4.16
6	Uttar Pradesh	23	3.99
7	Tamil Nadu	21	3.64
8	Chandigarh	20	3.47
9	West Bengal	19	3.29
10	Pudducherry	14	2.43
11	Odisha	13	2.25
12	Jammu & Kashmir	11	1.91
13	Gujarat	10	1.73
14	Haryana	8	1.39
15	Punjab	8	1.39
16	Rajasthan	8	1.39
17	Chhattisgarh	7	1.21
18	Jharkhand	6	1.04
19	Madhya Pradesh	6	1.04
20	Uttarakhand	6	1.04
21	Himachal Pradesh	5	0.87
21	Goa	3	0.52
22	Meghalaya	1	0.17
	Other countries	75	13.00
	Total	577	100.00

Table 6 shows that 502 Indian authors from 22 states of India have contributed their papers in DJLIT during 2011-2015. The maximum 117 (18.54%) authors are from Delhi, 77

(13.34%) from Maharashtra, 66 (11.44%) from Karnataka, 39 (6.76%) from Andhra Pradesh. The 75 (13%) authors from foreign countries have also contributed their papers in DJLIT.

Table 7: Country-Wise Distribution of Authors in DJLIT during 2011-2015

Sr. No.	Country	Number of Authors	Percentage %
1	India	502	87.00
2	Nigeria	15	2.60
3	Singapore	8	1.39
4	Greece	7	1.21
5	Saudi Arabia	7	1.21
6	Bangladesh	4	0.69
7	South Africa	4	0.69
8	Turkey	4	0.69
9	Spain	3	0.52
10	USA	3	0.52
11	Argentina	2	0.35
12	Germany	2	0.35
13	Malaysia	2	0.35

Sr. No.	Country	Number of Authors	Percentage %
14	Oman	2	0.35
15	Portugal	2	0.35
16	UAE	2	0.35
17	UK	2	0.35
18	Australia	1	0.17
19	Belgium	1	0.17
20	Fiji	1	0.17
21	Japan	1	0.17
22	Slovenia	1	0.17
23	Thailand	1	0.17
	Total	577	100.00

Table 7 shows that Maximum 502(87%) Indian authors have contributed their papers in DJLIT during 2011-2015. In foreign country list; authors of 22 (13%) countries of the world have contributed their papers in DJLIT during

2011-2015. The maximum 15 (2.60%) Nigerian authors have contributed their papers in DJLIT. The table 7 reveals contributions of different countries with their percentage.

Table 8: Major Contributors to DJLIT during 2011-2015

Rank	Author	Number of Papers	Percentage %
1	B.M. Gupta	13	2.25
2	Chennupati K. Ramaiah	11	1.91
3	Adrash Bala	6	1.04
4	B.S. Kademani	5	0.87
5	K. Bhanumurthy	5	0.87
6	K. Nageswara Rao	5	0.87
7	K.C. Garg	5	0.87
8	K.P. Singh	5	0.87
9	Rajendra Kumbhar	5	0.87
10	Pratibha A. Gokhale	4	0.69
11	Ritu Gupta	4	0.69
12	Shalinder Kumar	4	0.69
13	Shalini R. Lihitkar	4	0.69
14	Shri Ram	4	0.69
15	Anil Sagar	3	0.52
16	Gaagan Prathap	3	0.52
17	K.G. Pillai Sudhier	3	0.52
18	Mahabaleshwara rao Baikady	3	0.52
19	Mohamed Haneefa K.	3	0.52
20	M.P. Satija	3	0.52
21	Ramesh C. Gaur	3	0.52
22	S. Thanuskodi	3	0.52
23	Sunil Kumar Satpathy	3	0.52
24	Suresh Kumar	3	0.52
25	V.G. Talwar	3	0.52
26	49 authors with two papers each	98	
27	366 authors with one paper each	366	
	Total	577	

Table 8 reveals that Dr. B.M. Gupta has contributed maximum 13 (2.25%) papers in DJLIT during 2011-2015, Dr. Chennupati K. Ramaiah 11(1.91%) papers, Dr. Adrash

Bala 6 (1.04%) papers and most prolific contributors at least 3 papers. The table provides complete detail of 577 authors in DJLIT during 2011-2015.

Table 9: Length of Papers Published in DJLIT during 2011-2015

Number of pages	2011	2012	2013	2014	2015	Total	Percentage %
1-5	13	18	20	13	7	71	22.90
6-10	33	48	37	45	41	204	65.81
11-15	9	3	7	4	6	29	9.36
16-20	3	-	1	1	-	5	1.62
>21	-	1	-	-	-	1	0.33
Total	58	70	65	63	54	310	100.00

Table 9 shows that maximum 204 (65.81%) published papers in DJLIT during 2011-2015 have length between 6-10 pages, 71 (22.90%) have length of 1-5 pages, 29 (9.36%) have

length of 11-15 pages, 5 (1.62%) have length of 16-20 pages and 1 (0.33%) paper has length of more than 21 pages.

Table 10: References in Papers Published in DJLIT during 2011-2015

Number of References	2011	2012	2013	2014	2015	Total	Percentage %
1-5	8	17	13	6	2	46	14.84
6-10	13	14	22	16	12	77	24.84
11-15	16	19	9	19	14	77	24.84
16-20	5	6	4	12	11	38	12.58
21-25	5	5	5	4	8	27	8.71
26-30	1	3	5	3	3	15	4.84
31-35	2	5	1	-	2	10	3.23
36-40	2	-	2	2	1	7	2.26
41-45	3	-	-	1	-	4	1.29
46-50	1	-	-	-	-	1	0.33
>50	2	1	4	-	1	8	2.58
Total	58	70	65	63	54	310	100.00

Table 10 reveals that 77 (24.84%) papers have cited 6-10 references; another 77 (24.84%) papers have also cited 11-15 references, 46 (14.84%) papers 1-5 references, 38 (12.58%) papers 16-20 references, 27 (8.71%) papers 21-25 references,

15 (4.84%) papers 26-30 references, 10 (3.23%) papers 31-35 references, 8 (2.58%) papers more than 50 references, 7 (2.26%) papers 36-40 references, 4 (1.29%) papers 41-45 references and 1(0.33%) paper cite 46-50 references.

Table 11: Subject-Wise Paper Published in DJLIT during 2011-2015

Sr. No.	Subjects	Number of Papers	Percentage %
1	Digital/Online/E-Resources	54	17.42
2	Research	24	7.75
3	Library Services	20	6.46
4	ICT	19	6.13
5	Bibliometrics	17	5.49
6	Online Exhibitions	15	4.84
7	Users Studies	15	4.84

Sr. No.	Subjects	Number of Papers	Percentage %
8	Open Source Software/Search Engines	14	4.52
9	Classification/Cataloguing	12	3.87
10	Journals/Citations	12	3.87
11	Scientometrics	11	3.55
12	Librarianship	9	2.91
13	Agriculture	8	2.58
14	Public Libraries	8	2.58
15	Semantic Web	8	2.58
16	Library Management	7	2.26
17	Institutional Repositories	7	2.26
18	Knowledge	6	1.94
19	Medical Sciences	6	1.94
20	Ontology	6	1.94
21	Patent	6	1.94
22	Social Media	6	1.94
23	Information Literacy	4	1.29
24	Library Automation/Software	4	1.29
25	Cloud Computing	3	0.97
26	Web Metrics	3	0.97
27	Blogs/Portals	2	0.65
28	Literature	2	0.65
29	E-Learning	1	0.33
30	Data Mining	1	0.33
	Total	310	100.00

Table 11 shows that total 30 areas of library and information sciences are covered in DJLIT during 2011-2015. Maximum 54 (17.42%) papers are on digital/online/r-resources, 24 (7.75%) on research, 20(6.46%) on library services, 19 (6.13%) on ICT, 17 (5.49%) on bibliometric. The table provides complete detail of 30 areas with quantity of papers and their percentage.

FINDINGS OF THE STUDY

Following are the main findings of the study:

- Total 310 papers published in 30 issues of 5 volumes in DJLIT during 2011-2015 and out of 30 issues 17 (56.67%) issues are special issues and 193 (62.26%) papers are publish in these special issues.
- The maximum 132(42.58%) contributors are two-authors in 30 issues.
- Degree of collaboration of multi-authored is more than single authored.
- Average author per paper is 1.97 in the year 2014 is greater than other mentioned years.
- Maximum 117 (18.54%) contributors belongs Delhi state.

- Indian 502 (87%) and 75 (13%) foreign contributors their papers in DJLIT during 2011-2015.
- Dr. B.M. Gupta contributed maximum papers in DJLIT.
- Maximum 204 (65.81%) papers have length of 6-10 pages.
- 77(24.84%) papers cited 6-10 references and another 77 (24.84%) papers also cited 11-15 references.
- Maximum 54 (17.42%) papers covers the area of digital/online/r-resources in DJLIT during 2011-15.

CONCLUSION

DESIDOC Journal of Library and Information Technology (DJLIT) is playing a vital role in the field of library and information science. Library professionals, teachers, scientists, research scholars and other dignitaries are keen to contribute their research papers in this reputed journal. The bibliometric study during 2011-2015 reveals that DJLIT covers 22 Indian states, 22 foreign countries and 577 authors of different destination without any discrimination; it proves its strength.

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