

Scientometric Analysis of Library Trends Journal (1980-2017) Using Scopus Database

Ran Vijay Pratap

Research Scholar

Department of Library & Information Science

Banaras Hindu University, Varanasi-221005

Email- ranvijaypratap235@gmail.com

Anubhav Srivastava

Department of Library & Information Science

Banaras Hindu University, Varanasi-221005

Abstract – This study aims to evaluate the publications of Library Trends 1980-2017. The data were retrieved from the Scopus database published by Elsevier. It covers various methods like year wise distribution of article, authorship pattern, most prolific authors, country wise distribution of authors, most prolific institutes and degree of author collaboration. The study reveals that Library Trends has come out with total publications of 1500 articles during the study periods. The highest number of publications in terms of articles 72(4.8%) was published in the year 2007 followed by minimum 1(0.07%) in the year 1982. The study shows that most of the papers 1092(72.80%) were single authors followed by 408(27.2%) multi-authors papers. It reveals that Marshall, J.G. has scored first position in most prolific author ranking list by contributing 10 articles in Library Trends. The country wise distribution of findings shows that highest number of contribution made by United States articles (1136) and scored first rank.

Keywords: Scientometric, Quantitative techniques, Library Trends journals, Citation Analysis

Introduction

Scientometrics is the study of measuring and analyzing of the scientific output. Scientometrics applications are basically used to measure scientific activities, primarily by producing statistics on scientific publications indexed in databases (Singh, 2014, p.7). The field of library and information science (LIS) has developed several quantitative methods to study the various aspects of subjects. The metrics of LIS are continuously increasing, starting from librametrics, bibliometrics, scientometrics, infometrics, webometrics, and netometrics to cybernetics (Khan, 2016, p.9).

Source Journal

Library Trends is quarterly peer-reviewed academic journal founded in 1952 and published quarterly by the John Hopkins University press. It covers international developments and future directions in the field of library and information science (http://en.m.wikipedia.org/wiki/Library_Trends). Library Trends is an essential tool for professional librarians and educator alike. Every issue explores critical trends in professional librarianship, and includes practical application, through analyses, and literature reviews. Each issue brings readers in-depth, thoughtful articles, all exploring a specific topic of

professional interest. Every year, *Library Trends* covers wide variety of themes, from special libraries to emerging technology (https://www.press.jhu.edu/journals/Library_Trends).

Related Literature

Singh et al. (2017) examined that seven volumes of *Partnership: the Canadian journal of library and information practice and research* (2010-2016) and exposed that single authors 187(71.92%) contribution was more predominant than the multi authors. It was clear from their study that Canada has contributed the highest number of articles 251 (95.07%), scored first rank. Narzary & Murugan (2017) examined and reported that highest number of publications in terms of articles 155 (16.6%) was in the year 2013 followed by 2012 141(15.1%). It shows that most of the papers 3383 (98.38%) were contributed jointly whereas, 54 (1.6%) papers were contributed by single authors. It indicates that Kim J is the most prolific author contributing 58 (6.2%) of articles in *ETRI journals*. Verma & Singh (2017) studied and revealed that the trends in authorship pattern and degree of collaboration in *Journal of Librarianship and Information Science (JOLIS)* with a sample of 255 articles during 2010-2016. The average number of authors per paper is 2.27. Further the study shown that the degree of collaboration during the seven years (2010-2016) is 0.83 to 0.77. In the seven years of period, the multi-authorship articles are higher and predominating the single authorship.

Varma & Singh (2017) conducted the study bibliometric analysis of partnership: the *Canadian Journal of Library and Information Practice and Research* from 2006 to 2016. The degree of collaboration in the publications of this journal found to be 0.25. In regard to prolific country, the Canada leads the table, followed by the USA. However, Australia, Tanzania, Germany, France, Spain, Uganda and South Africa occupy the bottom position in the ranking. Therefore, it is clear from this study that the maximum number of contributions is made by Canada & USA, during the study period. Singh & Varma (2017) studied that 540 authors have contributed 274 papers. Multi-authored papers with 71.53% of contributions have dominated this field of research, *International journal of library and information science (IRJLIS)* highest degree of collaboration of 0.85 in the year 2012. There are four prolific authors who have contributed four papers each in *international journal of library and information science (IRJLIS)* in the year 2011-16. Verma & Singh (2017) carried out research study has been undertaken with the purpose of finding out the growth and characteristics of big data research output in India. Only 1265 articles are taken for the study period 2012-2016. Data were collected from the Scopus database and analyzed to study year wise distribution, form wise distribution, subject wise distribution, most prolific authors, subject wise, top ranked Institute and ranking of periodicals etc. Singh (2017) studied that five volumes of *evidence based library and information practice (EBLIP)* published during the period 2011-2015. The study analyzes that 96% of contributions are made by top five countries and the remaining 4% of contributions are made from 7 countries. The majority of articles published in *evidence based library and information practice (EBLIP)* fall under the category of research papers, followed by review articles, evidence summaries, conference papers, using evidence in practice so on.

Objectives

In this study the following objectives were formulated as:

- To analyze the growth trends of articles during 1980-2017;
- To identify the authorship pattern;

- To study the ranking of prolific author
- To evaluate the degree of author collaboration
- To examine the country wise distribution of publication output
- To identify the most prolific institutes

Methodology

Scientometric analysis of Library Trends journal has undertaken 1500 contributions from 1980-2017 for the study period. The sample selected as 1500 documents for the study in Library Trends Journal. All the databases were collected from the Scopus. And recorded in tabulated form for the purpose of in detail analysis. The study is based on the analysis of the recorded data, findings have been presented. The study analyzes various aspects such as document types, authorship patterns, country wise distribution of contributors, degree of collaboration, most prolific institutes etc.

Year Wise growth of Research Publication

Table.1 depicts the total number of publications in Library Trends from 1980-2017. The analysis of publications of the total 1500 records reveals that maximum number of contributions 72(4.80 %) in the year 2007 followed by minimum 1(0.07%) in the year 1982. It indicates that in the year 2007 maximum number of publication 72(4.80 %) were published in Library Trends.

Table 1: Year Wise growth of Research Publication

Year	No. of Articles	%	Year	No. of Articles	%
2017	35	2.33	1997	38	2.53
2016	32	2.13	1996	37	2.47
2015	52	3.47	1995	48	3.20
2014	38	2.53	1994	36	2.40
2013	48	3.20	1993	36	2.40
2012	43	2.87	1992	37	2.47
2011	44	2.93	1991	29	1.93
2010	40	2.67	1990	32	2.13
2009	47	3.13	1989	41	2.73
2008	43	2.87	1988	36	2.40
2007	72	4.80	1987	40	2.67
2006	43	2.87	1986	38	2.53
2005	40	2.67	1985	38	2.53
2004	53	3.53	1984	31	2.07
2003	51	3.40	1983	34	2.27
2002	18	1.20	1982	1	0.07
2001	61	4.07	1981	38	2.53
2000	35	2.33	1980	42	2.80
1999	40	2.67	Total	1500	100.00
1998	33	2.20			

Prolific Author

Table 2 presents rank list of prolific authors who have contributed nine articles in the different issues of Library Trends during the period of this study. Only up to five contributions have been considered in this table to stay away from long list. The authors having same amount of contributions have been considered in the same rank. The ranking of authors have played an important role in scientometric study. The findings show that the Marshall, J.G. has positioned top the rank list in this journal by contributing ten articles, followed by Rathbun-Grubb, S. by contributing nine articles scored second rank in the list, Morgan, J.C. eight articles scored third rank, Black, A., Lancaster, F.W. and Moran, B.B. by contributing seven articles each scored fourth rank, Cloonan, M.V. ,six article scored fifth rank and Anghelescu, H.G.B., Barreau, D., Kimball, M.A., Solomon, P., Marshall, V.W. and McClure, C.R. by contributing 05 articles each scored six rank. It is clear from the findings that Marshall, J.G. has dominated prolific author ranking list by contributing 10 articles.

Table 2: Prolific Author

Author	Contribution	Rank
Marshall, J.G.	10	1
Rathbun-Grubb, S.	9	2
Morgan, J.C.	8	3
Black, A.	7	4
Lancaster, F.W.	7	4
Moran, B.B.	7	4
Cloonan, M.V.	6	5
Anghelescu, H.G.B.	5	6
Barreau, D.	5	6
Kimball, M.A.	5	6
Solomon, P.	5	6
Marshall, V.W.	5	6
McClure, C.R.	5	6

Authorship patterns

It is clear from table 3 that, single authors have made maximum contribution 1092(72.80%) followed by two authors 291(19.40%), three authors 74(4.93%), four authors 25(1.67%) and mega authors 18(1.20%) have made major contribution to the Library Trends during the stated periods. This analysis indicates that single authors 1092(72.80%) have dominated than the co-authorship pattern.

Table 3: Authorship patterns

Year	No. of Author Contributed					Total
	Single	Two	Three	Four	Mega Authors	
1980-84	127	16	2	1	0	146
1985-89	161	27	5	0	0	193
1990-94	125	35	8	2	0	170
1995-99	155	32	5	3	1	196
2000-04	165	41	7	3	2	218
2005-09	163	47	17	11	7	245
2010-14	130	53	21	3	6	213
2015-17	66	40	9	2	2	119

Total	1092	291	74	25	18	1500
Percentage	72.80%	19.40%	4.93%	1.67%	1.20%	100

(Note: mega author-five& more than five authors)

Degree of Collaboration

Table 4 shows the degree of author collaboration. The formula was given by K. Subramaniam (1983) is used. The Formula is:

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

Where,

C = Degree of collaboration,

NM=Number of multi-authored works,

NS= Number of single-authored works.

The degree of collaboration is defined as the ratio of collaborative research paper to the total number of research paper in the discipline during the certain period. It was find that the low level of prevalence of collaborative research in the field of Library Trends journal. The analysis on the extent of collaboration of Library Trends journal research reveals fact that Degree of collaboration had an initial value of 0.13% in the year 1980-84 and this trend was increased to 0.33 % in the year 2015-17. There was an increasing trend on multi authored papers. It is clear that Subramanian’s formula led collaboration in this investigation through regression analysis.

Table 4: Degree of Collaboration

Year	Single Author	Multi Author	Degree of Collaboration
1980-84	127	19	0.13
1985-89	161	32	0.16
1990-94	125	45	0.26
1995-99	155	41	0.20
2000-04	165	53	0.24
2005-09	163	82	0.33
2010-14	130	83	0.38
2015-17	66	53	0.44
Total	1092(72.8%)	408(27.2%)	0.27

Most Prolific Institutes

Table 5 reveals that the 15 top most prolific institutes and their contributions. It is shows that University of Illinois at Urbana-Champaign contributed the highest number of documents 79(20.57%) of total contributions scored first rank, followed by University of Illinois 52(13.54%) has received second highest rank, University of Wisconsin Madison contributed 32(8.33%) received third rank, University of California, Los Angeles 26(0.35%) scored fourth rank, Florida State University 22(5.73%), UC Berkeley and The University of North Carolina at Chapel Hill 20(5.21%) each has received sixth rank, Library of Congress, University of Washington, Seattle, University of Pittsburgh, Indiana University and Syracuse University 17(4.43%) each has received seventh rank. However, University of Toronto,

University of Maryland and Rutgers, The State University of New Jersey 16(4.17%) each scored eighth rank. It is clear from the findings that University of Illinois at Urbana-Champaign dominated 15 top most prolific institutions by contributing the highest amount of documents 79(20.57%) of total contributions and scored first rank.

Table 5: Most Prolific Institutes

Affiliation	Documents	%	Rank
University of Illinois at Urbana-Champaign	79	20.57	1
University of Illinois	52	13.54	2
University of Wisconsin Madison	32	8.33	3
University of California, Los Angeles	26	6.77	4
Florida State University	22	5.73	5
UC Berkeley	20	5.21	6
The University of North Carolina at Chapel Hill	20	5.21	6
Library of Congress	17	4.43	7
University of Washington, Seattle	17	4.43	7
University of Pittsburgh	17	4.43	7
Indiana University	17	4.43	7
Syracuse University	17	4.43	7
University of Toronto	16	4.17	8
University of Maryland	16	4.17	8
Rutgers, The State University of New Jersey	16	4.17	8

Country wise distribution of contributors

Table 5 reveals that the country-wise distribution of publication. It shows that there are contributions made by the top most 15 different countries. Out of the top most 15 different countries, United State contributed the highest number of articles 1136 of total contributions scored first rank, followed by undefined countries have received second highest rank contributed 98 articles, Canada and United Kingdom contributed 72 documents scored third rank, Australia has contributed 28 document scored fourth rank, South Africa has contributed 19 document scored fifth rank, china has contributed 15 document scored sixth rank, Germany has contributed 19 document scored seventh rank, Belgium has contributed 10 document scored eighth rank, Denmark has contributed 9 document scored ninth rank, France has contributed 8 document scored tenth rank, Italy, new Zealand. Have contributed 7 document each scored eleventh rank, Ireland, Netherlands have contributed 6 document each scored twelve rank, Sweden has contributed 5 document scored thirteen rank. It is clear from the findings that top most 15 different countries, United State contributed the highest number of articles 1136 of total contributions scored first rank.

Table 6: Country wise distribution

Country	Documents	Rank
United States	1136	1
Undefined	98	2
Canada	72	3
United Kingdom	72	3
Australia	28	4
South Africa	19	5
China	15	6
Germany	12	7
Belgium	10	8
Denmark	9	9
France	8	10
Italy	7	11
New Zealand	7	11
Ireland	6	12
Netherlands	6	12
Sweden	5	13

Document wise distribution of Publications

Table No. 7 shows the document wise distribution of publications, like document type, no. of document, percentage. It shows that most of the scholarly communications of scientific research are published in Library Trends are in the form of articles a total of 1218 (81.20%), followed by Review 222(14.80%), Editorial 38(2.53%), Conference Paper 19(1.27%), Note 2(9.09%), and Erratum 1(0.07 %). out of total Publications in thirty-eight years' period of this study. It is clear that the maximum of publications is in the form of article 1218(81.20%) followed by Review 222(14.80%).

Table 7: Document wise distribution of Publications

Type	No. of Doc.	%
Article	1218	81.20
Review	222	14.80
Editorial	38	2.53
Conference Paper	19	1.27
Note	2	0.13
Erratum	1	0.07
Total	1500	100.00

Findings of the study

- It shows that maximum number of contributions 72(4.80%) in the year 2007 followed by minimum 1(0.07%) in the year 1982.
- It is clear that the maximum of publications is in the form of article 1218(81.20%) followed by Review 222(14.80%).
- This study finds that single authors' contribution 1092(72.8%) is more predominant than the multi authors.

- It is clear from the findings that Marshall, J.G. has dominated prolific author ranking list by contributing 10 articles.
- Out of the total 15 top most prolific countries, US contributed the highest number of articles 1136 of total contributions and scored first rank in the list.
- It is clear from the findings that University of Illinois at Urbana-Champaign dominated 15 top most prolific institutions by contributing the highest amount of documents 79(20.57%) of total contributions and scored first rank
- The analysis on the extent of collaboration of research trends in Library Trends journal reveals that Degree of collaboration had a minimum value of 0.13% in the year 1980-84 and this trend was increased to 0.33% in the year 2015-17.

Conclusion

Library Trends is a reputed international referred journal in the field of library and information science exclusively devoted to the library and information science and its development of various aspects. Analysis of the journal shows that it publishes high quality articles leading with review, editorial, conference paper, note and erratum contributed by the scholars in the field of LIS. In this direction Library Trends has set due goal for reflection the quality of research articles around the world.

References

1. Verma, N. & Singh, K. (2017). Authors productivity and degree of collaboration in journal of librarianship and information science (JOLIS) 2010-2016. *International Journal of Library and Information Studies*, Vol.7 (4) Oct-Dec, p. 1-6.
2. Singh, K. & Varma, A. K. (2017). Authorship Pattern and Degree of Collaboration in International Research Journal of Library and Information Science (IRJLIS), *Printing Area: International Research Journal*, Vol. 5(35), p. 138-142.
3. Varma, A. K. & Singh, K. (2017). Bibliometric analysis of Partnership: the Canadian Journal of Library and Information Practice and Research from 2006 to 2016, *International Journal of Library and Information Management*, Vol.8,No.2,July-Dec., p.10-18.
4. Singh, K., Nayak, S. and Varma, A. K. (2017). A Scientometric Analysis of Partnership: the Canadian Journal of Library and Information Practice and Research (2010-2016).*International Journal of Library and Information Studies*, Vol.7 (3), p. 81-88.
5. Varma, A. K. and Singh, K. (2017) Scientometric Analysis of literature on big data research output in India based on Scopus database. *International Journal of Library and Information Studies*, Vol.7 (4), p. 90-96.
6. Singh, K. (2017). Scholarly Communication in Evidence Based Library and InformationPractice from 2011-2015: A Bibliometric study. *International Journal of Next Generation Library and Technologies*, Vol. 3(4), p. 1-14.
7. Narzary, R. and Murugan, C. (2017). Authorship Pattern & Collaboration in ETRI Journal: A Scientrometric Study. *International Journal of Research-Granthaalayah*, Vol. 5 (7), p.608-622.
https://www.press.jhu.edu/journals/Library_Trends accessed on 21/03/2018.
8. http://en.m.wikipedia.org/wiki/Library_Trends

