Research Trends in The Electronic Library Journal During the Period 2010-2018: A Bibliometric Study

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Abstract

The purpose of this paper to examine the research paper which are to publish in The Electronic Library (TEL) during 2010-2018. There are 533 articles and 1249 authors were analyzed by year wise dispersion of research articles, author productivity, authorship pattern volume wise authorship pattern and degree of collaboration. It is the widely used aspect of bibliometric analysis. The highest of 72 (13.50%) paper were published in 2017 and 2018 and lowest of 49 (9.20%) in 2013. We found that degree of collaboration of this Journal is 0.756.

Keywords

Introduction

Bibliometrics is a statistical analysis of written documents, for example, books or papers. Bibliometric approaches, like scientometrics, are often used in the field of library and information science. For example, bibliometrics are used to provide academic literature quantitative analysis or to evaluate budgetary expenditure. Several areas of science using bibliometric methods to study to examine the impact of their area, the impact of a group of researchers or the impact of a particular paper.

Digital information research is published by [*The Electronic Library*](link) (TEL) journal. It is particularly interested in creating knowledge, discovering, accessing and sharing information behavior research in information organization. It is published bimonthly when a continuous annual volume begins to be published. The Electronic Library journal offers a network of knowledge centers worldwide for all libraries. It provides an information hub for the latest library and information science research development. The journal publishes original papers and discusses post, opinions and reviews of books (Emerald, 2019).

Review of Literature

Ahmadi and Khapardi (2015) the study examines the developments in the pattern of authorship and collaborative work during the 2007-2013 periods in the *Annals of Library and Information Studies: A Scientometrics Study*. Total 240 papers have been analyzed by pattern of authorship, relative rate of growth, geographic distribution of contributions.

Awasthi (2015) In her paper, she analyzed the papers published in the journal of *Library Trends* for bibliometric analysis between 2008 and 2014 and noticed that out of 261 articles that most of the articles were published in Summer and Winter, the end result showed that single authors made the highest contribution.

Ganganna (2017) calculated the trend and growth of articles published in the *Journal of Academic Librarianship* from 2012 to 2017 and showed that out of 477 articles, two authors contributed 152 papers. Every Year, articles are written with an average of 95.4 percent.

Hajam (2018) took from 2006-2016 *Journal of Creative Communication* for citation analysis. We found in his report that out of 185 research articles, 63.18 percent were single authored articles and 25.94 percent were two authored articles with a majority of Indian contributions.

Nagarkar et al. (2015) is extinguishing the *Bibliometric Review of Papers published by Savitribai Phule Pune University's Faculty of Life Science Departments during 1999 to 2013*. We found that departments displayed a high interest in research not only in life sciences, but also in interdisciplinary fields.

Rao et al. (2014) performed the same kind of bibliometric analysis in the *Journal of Propulsion and Power* (1985-2013). The purpose of the study is to examine the growth patterns of research output, authorship trends, and organizational quality; released in 1992 the highest number of articles (194) and in 1987 the lowest number (81).

Thavamani (2015) the papers published in the *Collaborative Librarianship* during the time 2009-2014 were discussed in his paper. The average degree of author collaboration is 0.354, which clearly shows its superiority over single authored contributions.

Objectives of the study

- To find out year wise dispersion of articles published in *The Electronic Library*;
- To examine the volume wise authorship pattern;
- To examine authorship pattern;
- To study author productivity;
- To identify degree of collaboration; and
- To examine the year wise dispersion of citations.

Analysis of Data

Data were collected from the website of *The Electronic Library* journal. Fifty-four issues from 9 volumes from 2010 to 2018 have been selected for the study. The bibliometric study examines the different aspects of books and journals such as authorship pattern, author's productivity and degree of collaboration. These data were represents by using simple arithmetic and statistical methods.

1. Year Wise Dispersion of Articles

Table 1 shows the year wise dispersion of articles. In which the highest number of article, i.e. 72 (13.50%) were published in year 2017 and 2018 whereas lowest 49 (9.20%) published in 2013.

Table .1. Year Wise Dispersion of Articles

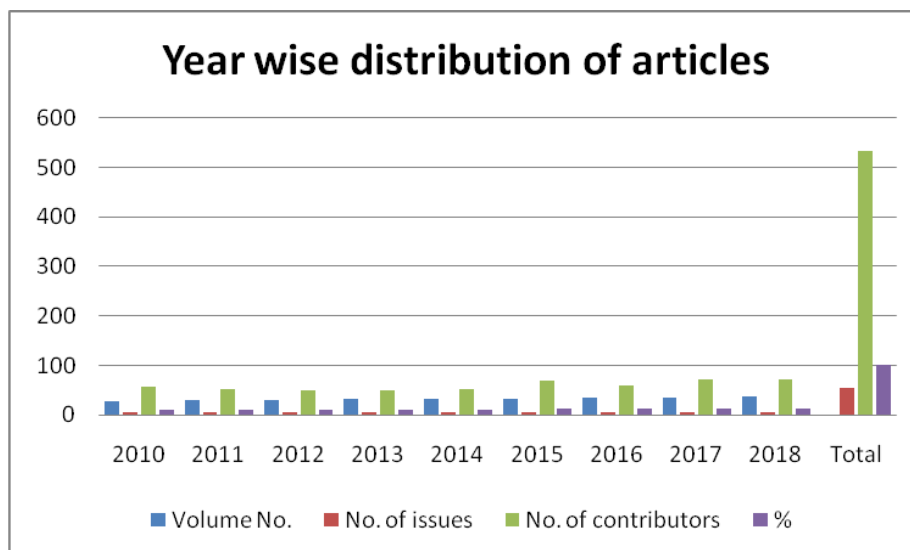| S. No.	Year	Vol. No.	No. of issues	No. of contributors	%
1	2010	28	6	57	10.70
2	2011	29	6	51	9.57
3	2012	30	6	50	9.38
4	2013	31	6	49	9.20
5	2014	32	6	52	9.76
6	2015	33	6	70	13.13
7	2016	34	6	60	11.26
8	2017	35	6	72	13.50
9	2018	36	6	72	13.50
	Total		54	533	100.00

Figure 1. Year Wise Dispersion of Articles

2. Vol. Wise Authorship Pattern

Table 2 depicts the volume wise authorship pattern. It shows that 205 contribution as two authored, Vol. 33 has the highest number 34 (16.58%) and Vol. 32 have lowest that is 20 (9.75%) contributions. Out of 533 papers, 130 articles contributed as single authors, Vol. 28 and Vol. 35 has highest number of contributions that is 18 (13.84%) whereas Vol. 36 has lowest 10 (7.69%) number of contributors. About 118 research articles contributed by three authors, Vol.36 have the maximum that is 24 (20.33%) and Vols. 29 has the minimum number that is 7 (5.93%) contributions,. 58 articles contributed by four authors and 14 by five author 3 by six and 5 by seven authors.

Table. 2. Vol. wise authorship pattern

| S. No	Year	Vol.	Authors Per Article							Total Papers	Total Authors
			1	2	3	4	5	6	7		
1	2010	28	18	23	11	05	0	0	0	57	117
2	2011	29	15	21	07	06	01	0	01	51	114
3	2012	30	16	18	09	04	02	01	0	50	111
4	2013	31	16	21	10	01	01	0	0	49	97
5	2014	32	15	20	11	05	01	0	0	52	113
6	2015	33	13	34	13	07	02	0	01	70	165
7	2016	34	10	24	14	10	02	0	0	60	150
8	2017	35	18	23	19	09	01	0	02	72	176
9	2018	36	09	21	24	11	04	02	01	72	206
	Total		130	205	118	58	14	03	05		
										533	1249
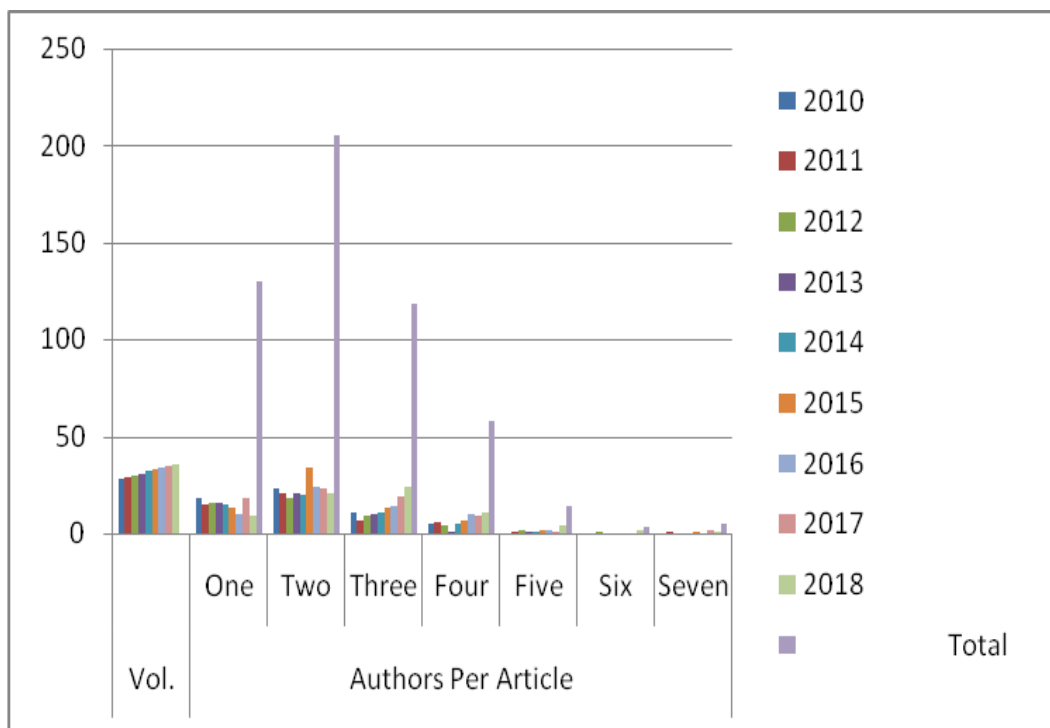
Figure 2. Volume wise authorship pattern

3. Authorship Patterns

Table 3 indicates that majority of paper 205 have been written by 2 authors. It shows that 130 articles contributed by single authors, 118 articles written by three authors followed by 58 articles by four authors and the lowest number of research articles that is three written by six authors.

Table 3. Authorship Patterns

S. No.	No. of authors	Total No. of contributors	(%)
1	1 author	130	24.39
2	2 author	205	38.46
3	3 author	118	22.14
4	4 author	58	10.89
5	5 author	14	02.62
6.	6 author	03	0.56
7	7 author	05	0.94
	Total	533	100.00
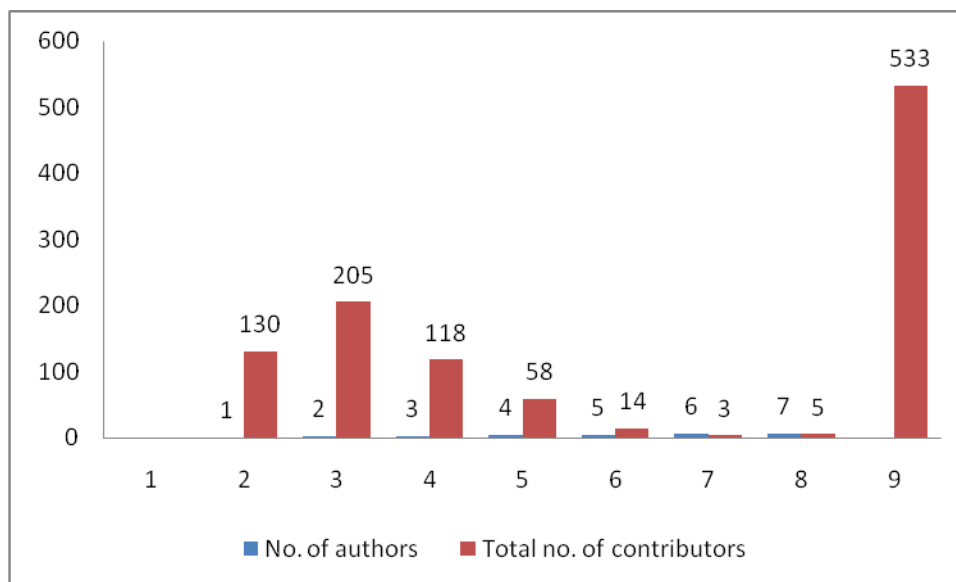
Figure 3. Authorship Patterns

4. Classification of Papers

Table 4. Classification of Papers

Category											
	YEAR										
Category	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**No. of Articles**	**%**
Research paper	41	32	37	42	45	63	51	60	57	428	80.30
Technical paper	2	2	2	0	1	0	2	2	4	15	2.82
Conceptual paper	2	2	1	0	0	0	1	0	1	7	1.32
Viewpoint	1	4	0	0	0	0	0	2	1	8	1.50
Case study	8	8	5	6	5	6	4	4	5	51	9.57
Literature review	1	2	2	0	0	1	2	3	4	15	2.81
General review	2	1	3	1	1	0	0	1	0	9	1.68
Total	**57**	**51**	**50**	**49**	**52**	**70**	**60**	**72**	**72**	**533**	**100.00**

This table indicates that the majority no. of articles published research paper i.e. 428 (80.30%), whereas 51 (09.57%) articles published as case study. There were some articles published as conceptual paper, i.e., 7 (1.32%).
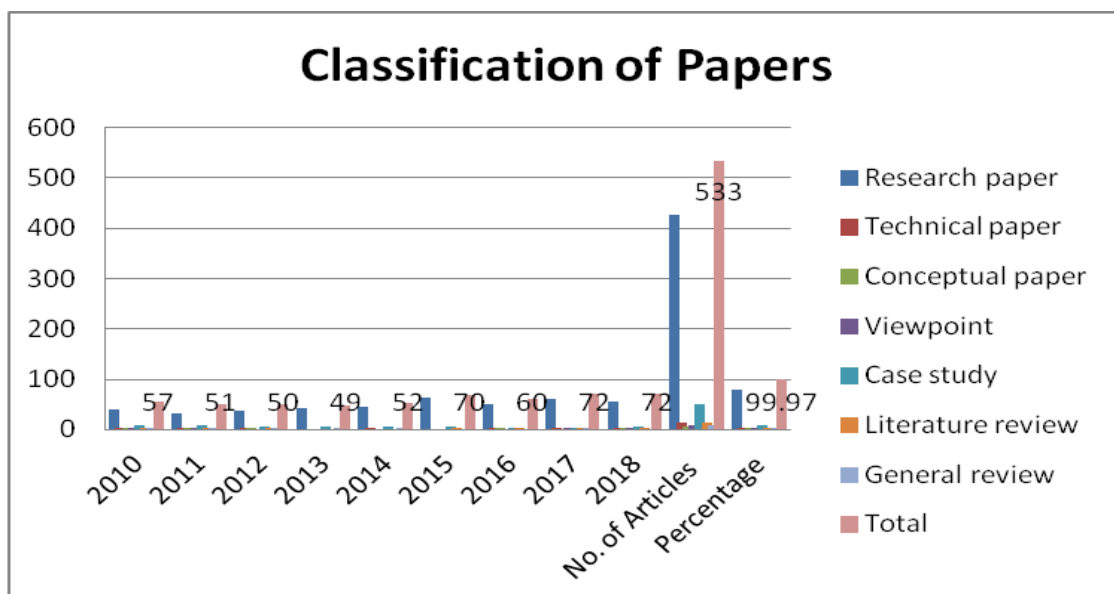
Figure 4. Classification of papers

5. Author Productivity

Table 5. Author Productivity

S. No.	Years	Total papers	Total authors	AAPP*	Productivity per author
1	2010	57	117	2.052	0.487
2	2011	51	114	2.235	0.447
3	2012	50	111	2.220	0.450
4	2013	49	97	1.979	0.505
5	2014	52	113	2.173	0.460
6	2015	70	165	2.357	0.424
7	2016	60	150	2.500	0.400
8	2017	72	176	2.444	0.409
9	2018	72	206	2.861	0.349
	Total	533	1249		

* Average authors per paper = no. of authors /no. of papers.

Productivity per author = no. of papers/ no. of authors

Table 5 indicates author's productivity, which shows that maximum author's productivity 206 (2.861) was in the year 2018 and the least 97 (1.979) was in the year 2013.
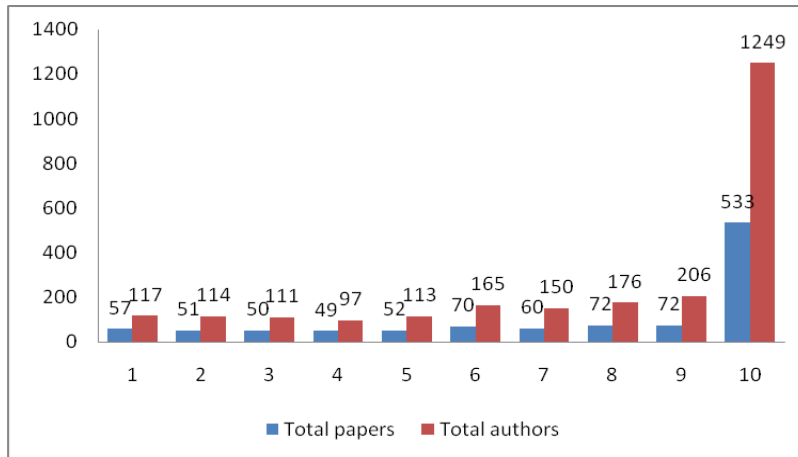
Figure 5. Author's Productivity

6. Degree of Authors Collaboration

Table no. 6 examined the degree of author's collaboration of Electronic Library from 2010-2018 with the formula given by K. Subramanian (1983).

Table 6. Degree of collaboration

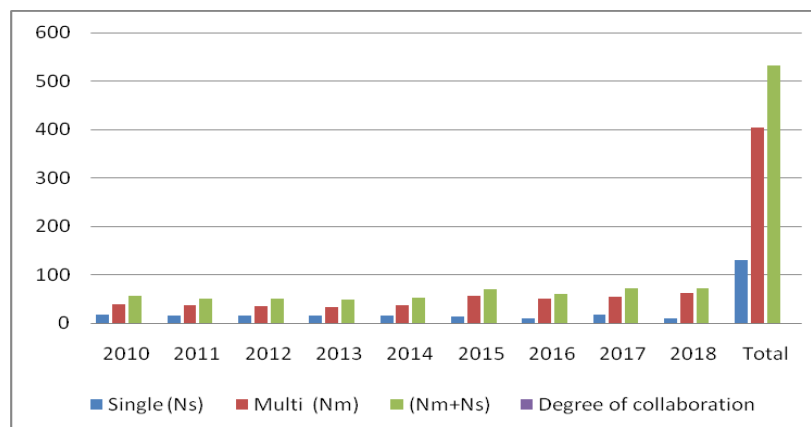| S. No.	Years	Single (Ns)	Multi (Nm)	(Nm+Ns)	Degree of collaboration
1	2010	18	39	57	0.684
2	2011	15	36	51	0.705
3	2012	16	34	50	0.680
4	2013	16	33	49	0.673
5	2014	15	37	52	0.711
6	2015	13	57	70	0.814
7	2016	10	50	60	0.833
8	2017	18	54	72	0.750
9	2018	09	63	72	0.875
	Total	130	403	533	0.756
	Percentage %	24.39	75.61	100.00	

Figure 6. Degree of authors' collaboration

Formula:

DC = degree of collaboration

NM = Number of multi authored papers

NS = Number of single authored papers

DC = Nm / Nm + Ns

C =   130 / 130+403

  =   403/533

C = 0.756

The degree of collaboration in the present study is 0.756, so it has been found that the degree of author collaboration of Electronic Library is 0.756.

7. Year wise Distribution of citations

Table 7. Year wise dispersion citations

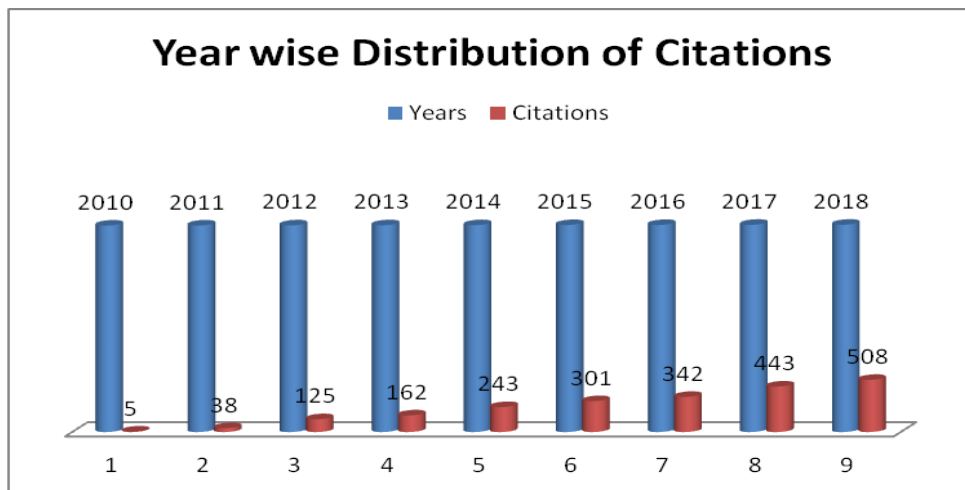| S. No.	Years	Citations
1.	2010	05
2.	2011	38
3.	2012	125
4.	2013	162
5.	2014	243
6.	2015	301
7.	2016	342
8.	2017	443
9.	2018	508

Figure 7. Year wise citations

This figure shows that the highest citations in 2018 i.e. 508 followed by 443 in 2017 and 342 in 2016 also show that citations raise patterns year after year in 9 years.

8. Special Issues

Table 6 displays *The Electronic Library* (TEL) journal's special issues under the Guest Editorship of respected LIS experts during the period 2010-2018. Of the 54 issues covered during the period 2010-2018, only five special issues have been published.

Table 8. Special issues of the Electronic Library brought out during 2010-2018

Year	Vol. & Issue No.	Title	Guest Editor(s)
2011	Vol. 29 No. 2	2009 Metadata and Semantics Research (MTSR) conference	Stephen S. Mutula
2011	Vol. 29 No. 2	2009 African Digital Scholarship and Curation Conference	Miguel-Angel Sicilia
2012	Vol. 30 No. 2	Multilinguality in Digital Libraries	Daqing He
2017	Vol. 35 No. 4	Managing Bigger Online Data	Xinning, Su, Chengzhi Zhang, Daqing He.

The major findings and conclusion are followings:

- Most of the articles published in 2017-2018 were classified as 72 (13.50%) and 49 (9.19 %) as the lowest in 2013.
- Two writers contributed the highest number of contributions i.e. 205 (38.46%). Four authors followed 130 (24.39%), three authors 118 (22.13%) and so on.
- This journal's degree of collaboration is 0.756.

The overall number of articles that have been written as research paper is 428 (80.30%). Citation of papers' year wise distribution shows that the total number of citations in 2018 was 508, followed by 443 in 2017 and 342 in 2016.

Conclusion

The review of articles published in the Electronic Library between 2010 and 2018 shows that literature is raising in the direction of upward trends. In 2017-2018, the largest number of articles was published, i.e. 72 (13.50 %). We have found in this Journal that most papers were published as research paper i.e. 428 (80.30%), while 51 (09.56 %) articles were published as case studies. Some papers have been published as Conceptual paper i.e. 7 (1.31%) and out of 54 issues published during the period 2010-2018, only five special issues were brought out.

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