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Self-citations in IASLIC Bulletin

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Abstract

The basic purpose of this study is to investigate the self-citations appearing in IASLIC Bulletin during 2005-2017. It was found that more than 30% of the articles carry self-citations. The rate of self-citations is 5.81% only. The per-cent of author self-citations, author/journal self-citations and journal self-citations was 53.89%, 2.59% and 43.52% respectively. There were 36 authors who had self-cited only once. The highest self-citing author was P Mukhopadhyay with 10 self-citations followed by A K Bandhopadhyay and B Roy with 8 self-citations each, all from University of Burdwan, West Bengal. Journals (62.7%) were the most self-cited documents. Most of the self-citations (40.93%) were from the period 1998-2007. It is suggested that self-citation indicators should be used as supplementary indicators for evaluative bibliometrics.

Keywords: IASLIC Bulletin; Author Self-citations; Author/Journal Self-citations and Journal Self-citations

1. Introduction

Citation indicators are increasingly used for research evaluation assuming that it can be regarded as a measure of scientific quality (Asknes, 2006). The research community use bibliometric data including citation count, impact factor of journals in which the articles are published to assess the importance of journals along with merit and productivity of authors (Gami et al, 2004). Whenever such indicators are used to evaluate scientific research, self-citations are problematic (Gowler & Aksnes, 2007).

An author self-citation occurs whenever citing and cited document have at least one author common (Aksnes, 2003). These self-citations are common practice as they have good reasons to cite their previous works to develop a connection with the present work to avoid repetition of information (Tagliacozzo, 1977). Acknowledging one's own work also become necessary when the published data in a specific field is solely by the citing author. It is used to indicate the advancement of the research topic (Gami et al, 2004 & Glanzel et al, 2006). It becomes inevitable also when publications are the result of a series of continuous efforts in a specific research field (Falagas & Kavvadia, 2006).

It may distort the citation count and their reliability as a proxy for quality if scholars have the incentive to cite themselves (Fowler & Aksnes, 2007). At the same time persistence absence of self-citation is as irrational as high self-citation rate. It shows that there is no continuity in

research on the part of the researchers (Gl̃nznel, Thus & Schlemmer, 2004 and Pichappan & Sarasvady, 2002)

It is evident from the above discussion that self-citation is very important in citation analysis. The present study has been carried out to examine the self-citation pattern in IASLIC Bulletin on the same line as Rattan (2013) has carried out in his study.

2. Review of literature

Many studies on self-citations are carried out by different authors. Few of those are given below.

Tagliacozzo (1977) investigated to find out the extent of authors of scientific articles citing their prior publications in core journals of plant physiology and neurobiology. There was no relation between self-citations and the number of co-authors and to their author's productivity.

Kundu (1981) based his study on the citations in the Annals of Library Science for the period 1954-1975. Out of the total citations 14.9% were self-citations. S. R. Ranganathan was the most self-citing author with 174 self-citations.

Tiew (1997) carried out study on Journal of Natural Rubber Research during the period of 1988-1997. He analysed journal self-citations and author self-citations in the research articles and short communications of this journal. The findings showed that 53% of the articles contained journal self-citations; the rate of journal self-citations per article ranges from 1 to 12. The highest self-citing author was A D Roberts from Malaysian Rubber Producers' Research Association. There was high percentage of authors (61.4%) contributing articles to the journal cite themselves.

Shokeen & Kaushik (2004) jointly analysed the authorship pattern and citation pattern of articles in Indian Journal of Plant Physiology. The study was based on 61 articles published during January to December 2002. There were 1149 citations featuring 2770 authors during the year. The results showed that two authored citations were more common. The ratio of author self-citations to total citations was 1:16.65 whereas the ratio of journal self-citations to total citations was 1:31.91.

Davarpanah & Amel (2009) jointly conducted a study on author self-citation behaviour in four disciplines namely electronic engineering, general and internal medicine, organic

chemistry and plant sciences for the period 2004-2006. It was concluded that about 60% of the articles contained at least one self-citation. The share of author self-citations was 41.25% and self-citations decreased with the passage of time. Co-authorship also influenced self-citations.

Kulkarni et al (2011) found that author self-citations account for approximately 1 in 15 citations received by articles published in high profile general medical journals over an 8 year post-publication period. Self-citation was highest within about 2 years of publication and affects impact factor disproportionately.

Shah, Gul & Gaur (2015) analysed author self-citation behaviour in Library and Information Science. A sample of 12 LIS journals from Social Science Citation Index was selected and confined to original research and review articles only for the year 2009. The findings of the study showed that there was no correlation between the number of authors and number of self-citations. There was strong positive correlation between the total citation count and frequency of self-citation. There was negative correlation between impact factor and share of self-citations.

3. Objectives

The present study has been carried out keeping in view the following objectives.

- To find out the year-wise distribution of articles with self-citations.
- To know the frequency of self-citations.
- To calculate year-wise total number of self-citations.
- To analyse the self-citations into different types of self-citations
- To know the frequency of self-citing authors
- To find out the ranked list of self-citing authors along with institutional affiliation
- To know the format of self-citing documents
- To find out the chronological distribution of self-citations

4. Scope and Methodology

Each volume of the IASLIC Bulletin includes articles, book reviews and letter to editors. But this study is based on 278 articles only and 3324 references appended at the end of these articles. The period covered for the study is 13 years from 2005 to 2017. All the issues of this journal were physically verified from the shelves. The name of each contributor(s)/author(s)

of each article under study is noted down in excel spread sheets. Then the author of each article is compared with the citations of that particular article to find out the author self-citations as well as author/journal self-citations. Duplicate references are excluded from the study. Also source journal citations of each article are also noted to find out the journal self-citations. All this information is transformed to MS excel spread sheets to form different tables keeping in view the objective of the study.

5. Analysis and discussion

5.1 Analysis on year-wise distribution of with and without self-citation

The year-wise distribution of articles with self-citations and without self-citations appearing in the IASLIC Bulletin is shown in Table 1. This table shows that there are 278 articles published in this journal during the period under study. Out of these total number of articles 30.22% articles are with self-citation and rest of the articles are without self-citations.

Table 1: Year-wise distribution of articles with/without self-citation

Year	Articles with self-citation	Articles without self-citation	Total articles
2005	8 (36.36%)	14	22
2006	10 (47.62%)	11	21
2007	6 (28.57%)	15	21
2008	4 (19.05%)	17	21
2009	5 (21.74%)	18	23
2010	10 (35.71%)	18	28
2011	8 (34.78%)	15	23
2012	3 (13.04%)	20	23
2013	7 (38.89%)	11	18
2014	5 (22.73%)	17	22
2015	5 (27.78%)	13	18
2016	8 (50%)	8	16
2017	5(22.78%)	17	22
	84(30.22%)	194(69.78%)	278

5.2 Analysis on frequency distribution of self-citations in articles

The frequency with which the self-citations are given in the articles is depicted by table 2. It is clear from the table that 57.14% of the articles are having one self-citation followed by 19.05% articles with 2 self-citations and 13.1% articles with 3 and so on. There is only one article which has 34 i.e. maximum self-citations.

Table 2: Frequency distribution of self-citations in articles.

Frequency of self-citation	No. of articles with self-citations	%age
1	48	57.14
2	16	19.05
3	11	13.1
4	5	5.95
7	2	2.38
12	1	1.19
34	1	1.19
	84	100

5.3 Analysis on year-wise distribution of self-citations in total self-citations

The year-wise total number of self-citations are represented by table 3 which indicates that there are a total of 3324 citations. Out of these total number of citations only 5.81% are self-citations. The percentage of self-citations has come down to 2.81% in the year 2015 from 17.09% in the year 2005 with slight fluctuations. There is sudden increase in the rate of self-citations to 13.76% in the year 2016. But the overall trend of self-citations is decreasing.

Table 3: Year-wise Distribution of self-citations in total citations

Year	Number of citations	Number of self-citations	%age of self-citations
2005	275	47	17.09
2006	214	18	8.41
2007	201	8	3.98
2008	177	4	2.26

2009	252	7	2.78
2010	284	17	5.98
2011	317	14	4.42
2012	296	8	2.7
2013	226	17	7.52
2014	244	8	3.28
2015	320	9	2.81
2016	218	30	13.76
2017	300	6	2
	3324	193	5.81

5.4 Analysis on different forms of self-citations

The various forms of self-citations are reflected through table 4 which indicates that maximum self-citations are author self-citations with 53.89%. The share of journal self-citations is 43.52% whereas author/journal self-citations is 2.59% only.

Table 4: Distribution of different forms of self-citations

Year	Author self-citation	Journal self-citations	Author/Journal self-citations	Total self-citations
2005	10	37	-	47(24.35%)
2006	8	8	2	18(9.32%)
2007	3	5	-	8(4.15%)
2008	3	1	-	4(2.07%)
2009	4	3	-	7(3.63%)
2010	15	2	-	17(8.81%)
2011	11	2	1	14(7.25%)
2012	1	7	-	8(4.15%)
2013	8	9	-	17(8.81%)
2014	3	5	-	8(4.15%)
2015	8	-	1	9(4.66%)
2016	27	2	1	30(15.54%)
2017	3	3	0	6(3.11%)
	104 (53.89%)	84(43.52%)	5 (2.59%)	193

5.5 Self-citing authors in journals

5.5.1 Analysis on frequency of self-citing authors

The frequency of author self-citations is given in table 5. It clearly displays that the total number of self-citing authors are 61 with 109 self-citations and out of these self-citing authors, 36 (59.01%) authors cite themselves only once followed by 18.03% authors cite themselves twice, 9.84% authors cite thrice and so on. Rest of the authors cite themselves between 4 to 8 times. The highest number of self-citations by an author is 10.

Table 5: Frequency of self-citing authors

Frequency of self-citing authors	No of authors	Percentage
1	36	59.01
2	11	18.03
3	6	9.84
4	3	4.92
5	1	1.64
7	1	1.64
8	2	3.28
10	1	1.64
	61	100

5.5.2 Analysis on ranked list of self-citing authors

Ranked list of self-citing authors along with institutional affiliation is presented by table 6. The authors who have self-cited thrice and more than thrice are listed in this table and their number is 14. These authors are from 11 different institutions and 4 self-citing authors are from University of Burdwan, West Bengal. P. Mukhopadhyay is the most self-citing author from University of Burdwan with 10 self-citations. A. K. Bandhopadhyay and B. Roy both are the second self-citing authors with 8 self-citations (each), again from University of Burdwan. A. Chatterjee is ranked third with 7 self-citations from IASLIC, Kolkata. P. C. Shah has self-cited 5 times from ADINET, Ahmedabad. S. C. Biswas from University of

Burdwan, Claudio Gnoli from University of Pavia, Italy and Manoj Kumar Sinha from Assam University, Silchar, all the three authors have 4 self-citations each. Six authors from different institutions have 3 self-citations each.

Table 6: Ranked list of self-citing authors

Sr. No.	Name of Author	Institutional affiliation	Number of times self-cited
1	Mukhopadhyay, P	University of Burdwan, West Bengal	10
2	Bandhopadhyay, A. K	University of Burdwan, West Bengal	8
3	Roy, B	University of Burdwan, West Bengal	8
4	Chatterjee, A	Indian Association of Special Libraries Information Centre, Kolkata	7
5	Shah, P C	ADINET, Ahmedabad	5
6	Biswas, S. C.	University of Burdwan, West Bengal	4
7	Claudio Gnoli	University of Pavia, Italy	4
8	Sinha, Manoj Kumar	Assam University, Silchar	4
9	Singh, A.	NCERT, New Delhi	3
10	Chauhan, P.	Maharana Pratap Govt. P G College Hardoi, India	3
11	Christina Birdie	Indian Institute of Astrophysics, Bangalore	3
12	Dibendu Paul	University of Calcutta	3
13	Maity, G.	Jadavpur University, Kolkatta	3
14	Borse, T. R.	North Maharashtra University, Maharashtra	3

5.6 Analysis on chronology of self-citations

The date wise distribution of self-citations is shown in table 7 which indicates that maximum i.e. 40.93% of self-citations are from the period 1998-2007 followed by 37.31% from the period 2008-2017, 15.03% from 1988-1997. The chronology of 2.07% of self-citations is not available. The least self-citations i.e. 1.04% are from the period 1958-67. There is no self-citation from the period 1968-77.

Table 7: Chronological distribution of self-citations

Period	Number of self-citations	% of self-citations
1958-1967	2	1.04%
1968-1977	-	-
1978-1987	7	3.62%
1988-1997	29	15.03%
1998-2007	79	40.93%
2008-2017	72	37.31%
NA	4	2.07%
	193	100

5.7 Analysis on forms of self-citations

The different documents used in self-citations are given in table 8. The most self-cited form of documents (62.7%) is journal followed by conference proceedings with 19.69% and theses with 9.84% and so on as shown in the table 8.

Table 8: Format of self-citing documents

Form of self-citation	Number of times self-cited	Percentage
Books	11	5.7
Conference Proceedings	38	19.69
Journals	121	62.7
Theses	19	9.84
Web-sites	4	2.07
	193	100

6. Comparison with other studies

The author self-citation, author/journal self-citation and journal self-citation in Rattan (2013)'s study is 60.69%, 6.45% and 32.86% whereas it is 53.89%, 2.59% and 43.52% respectively in the present study. The difference in Rattans' study and present study is that

duplicate references were included in previous study but duplicate references are excluded in the present study. Comparing the results with Tiew (1997)'s study the author/journal self-citations was 8.4% whereas it is 2.59% in the present study. Aksnes (2003) investigated self-citations in the scientific production of Norway. The author self-citation rate was 36%. Davarpanah and Amel (2009) investigated the share of author self-citation 41.25% in four disciplines of science namely electronic engineering, general and internal medicine, organic chemistry and plant sciences.

7. Findings and Conclusion

Self-citation is dynamic and continuous phenomenon. It is difficult to understand in short time span so the sample is taken to be thirteen years. More than 30% of the articles contain self-citations. The range of self-citations per article is from 1 to 48. There are total of 3324 citations and out of these total number of citations self-citations are only 193 (5.81%). This is slightly above the self-citation rate (5%) in social sciences and below the rate in sciences (10-20% (Tagliacozzo, 1977)). Overall the trend of using self-citations has decreased in this journal. This low self-citing rate indicate that the editorial board of this journal is not biased towards citing the source journal which shows the broader outlook of the editors of this journal. The share of author self-citations is 53.89%. This high percentage of author self-citations show that authors of this journal are engaged in a series of continuous research in the field of LIS.

There are 36 authors who have self-cited for once only. The highest self-citing author is P Mukhopadhyay with 10 self-citations from University of Burdwan, West Bengal. Maximum i.e. 40.93% self-citations are from the period 1998-2007. The most (62.7%) self-cited form of documents is journal which shows that researchers publish most of their research work in journals.

There are inconsistencies in citing the author's name which creates difficulties in analysing the data and lot of time is wasted. There is need to have thorough understanding of self-citation behaviour in any discipline. This study has its limitations in scope as it deals with only one journal in the field of library and information science. More journals of LIS need to be studied for understanding self-citation behaviour in the whole discipline.

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