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# Self-citations in Annals of Library and Information Studies

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## Abstract

The present study has been carried out on the extent of self-citations in Annals of Library and Information Studies during the period of 2002-2012. The results indicate that 53.72% of the articles contain self-citations. Out of total 5261 citations, the 636 (12.08%) citations are self-citations. Frequency of self-citations per article ranges from one to forty three. Almost 1/5<sup>th</sup> authors have cited themselves. Most of the citations appear in the present title of the journal. The most self-citing author is V. L. Kalyane from Bhabha Atomic Research Centre, Mumbai.

**Key words:** Self-citations, Author self-citations, Journal self-citations, Annals of Library and Information Studies.

## Introduction

There are hundreds of journals published in the field of Library and Information Science which include thousands of research articles. Library professionals simply cannot read all literature that is published. So, they focus their attention on a small set of authors that have common interests.

Library and Information Science professionals writing research articles frequently cite their own articles. Self-citations are frequent in every literature including Library and Information Science. An author makes self-citations while citing one of his previously published works as a reference in a new article. In multi-authored articles, a self-citation occurs whenever the set of co-authors of the citing article and that of the cited one share at least one author (Snyder and Bonzi [1998](#)).

Self-citations may be necessary, e.g., to introduce a study that builds on previous works, refer to methodologies already described in previous articles, or even acknowledge personal contribution to a research topic (Glänzel et al. [2006](#)). Usually, authors refer the previous publications that are most relevant to their current results and these previous references are independent of the source journal in which the work was published.

Journal self-citations, defined as a citation received from an article published in the same journal.

The practice of self-citation can be considered at many levels i.e. author self-citation, journal self-citation, and subject category self-citation. The current study is based on the analysis of the self-citations of the following categories.

(a). The author(s) of the cited and citing documents are same but cited and citing journal is not same. These types of self-citations are treated as Author self-citations.

(b). The author(s) of the cited and citing documents are same along with same cited and citing journal. These types of citations are Author/Journal self-citations as the same citation is treated under Author as well as Journal self-citations.

(c). The author(s) of the cited and citing documents are not same but cited and citing journal is same. These types of citations are Journal self-citations.

### **Review of literature**

Kundu (1981) carried out a study on self-citations on the journal *Annals of Library Science* (afterwards *Annals of Library Science and Documentation*) during 1954-1975. He found out that the percentage of self-citations is only 14.9%. He also noted that the top self-citing author is S. R. Ranganathan with a count of 174 self-citations.

Dimitroff and Arlitsch (1995) determined the rate of self-citations in the LIS literature. A sample of 1,058 articles was examined and 50% of the articles examined contained at least one self-citation. The self-citation rate was 50% which was higher than that reported in studies of self-citation rates in the sciences and social sciences. However, the percentage of self-citations is 6.6%. This percentage falls between the percentages reported in the sciences and other social sciences.

Tiew (1997) carried out a ten year study on Journal of Natural Rubber Research during the period of 1988-1997. He analysed the extent of journal self-citation and author self-citation in the research articles and short communications in this journal. The results show that 53% of articles contained journal self-citations; the rate of journal self-citations per article ranges from 1 to 12. The highest self-citing author is A. D. Roberts; a high percentage of authors (61.4%) contributing articles to the journal cite themselves.

Shokeen and Kaushik (2004) analysed the authorship pattern and citation pattern of articles that appeared in Indian Journal of Plant Physiology. The study was carried out on 61 articles published during January to December 2002. There were 1149 citations featuring 2770 authors during the year. The results show that two authored citations are more common. The ratio of author self citation to total citations is 1:16.65 whereas the ratio of journal self-citation to total citations is 1:31.91. The results also highlighted about the age of citations.

Kulkarni, Aziz, Shams and Busse (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 peaks within about 2 years of publication and disproportionately affects impact factor. Certain article characteristics are associated with increased self-citations.

Leblond (2012) investigated 643 articles from 9 different ecology journals of various impact factors synchronous (i.e. within reference lists) and diachronous (i.e. following publications) self-citations, using Web of Science online database. On an average ecologist made 6.0 synchronous self-citations (12.8% of references) and 2.5 diachronous self-citations (25.5% of citations received 2.8 to 4.5 years after publication) per article. The proportion of diachronous self-citations was best explained by the proportion of synchronous self-citations. The proportion

of self-citations also increased with the number of pages and the impact factor of ecology journals and decreased with the number of references/citations.

It is clear from the literature review that self-citation is significant in the field of citation analysis. The purpose of this study is to investigate the pattern of self-citations as is observed in Annals of Library and Information Studies (ALIS). This journal was launched by INSDOC (Indian National Scientific Documentation Centre) as its first publication and Dr S R Ranganathan was its first editor. From the year 2002 onwards, it was brought out by NISCAIR (National Institute of Science Communication and Information Resources). NISCAIR came into existence on 30<sup>th</sup> Sept., 2002 with the merger of NISCOM (National Institute of Science Communication) and INSDOC. It is quarterly publication and is the oldest LIS journal in its 60<sup>th</sup> volume in 2013. From 2002 onwards, this journal is available online on <http://www.niscair.res.in/sciencecommunication/researchjournals/rejour/annals/annals0.asp>

## **Objectives**

The objectives of this study are to find out

- The number of articles with self citations
- The frequency distribution of self citations by year and per article
- The frequency distribution of self-citations into different forms;
- The frequency distribution of Author as well as Journal Self-citations;
- The frequency distribution of Author as well as Journal Self –citations by article;
- The frequency distribution of Journal Self-citations by Titles
- The number and frequency distribution of self citing authors in the journal under study
- The rank list of Self-citing authors

## **Scope and methodology**

The study is based on 309 articles and short communications (excluding one article of appendices) and 5261 references appended to these articles published in the ALIS during the period 2002-2012. The title page of the journal containing author's name and institutional affiliation along with references appended at the end of each article is analysed. There are total of 309 articles and 166 articles include self-citations while 121 authors out of 596 authors have self-cited themselves.

The web page of the journal was accessed in March and Dec. 2012 for the period 2002-2012. The data downloaded from the web page of the journal was compiled and scanned to study various aspects pertaining to author self-citations and journal self-citations. The references were examined and tabulated for necessary data into separate spread sheets of Microsoft Excel 2007 to facilitate the study in terms of number and frequency of journal self-citations per article, per year

and title. At the same time author self-citation was also examined and tabulated to find out the frequency of self-citing authors and to prepare ranked list of highest self-citing authors.

## Results and discussions

### Frequency distribution of articles with self-citations by year

Table 1 indicates the frequency distribution of self-citations figured in references appended to articles published in the journal between the years 2002-2012. The year 2010 scored the highest with 32 articles having self-citations. Self-citations occurred in as many as 166 articles out of 309 articles during this period of eleven years, i.e. 53.72% of the contributions to this journal include self-citations.

Table 1: Frequency distribution of articles with self-citations

Year	Number of articles with self citations	Number of articles without self citations	Total number of articles
2002	7	11	18
2003	9	10	19
2004	8	13	21
2005	10	13	23
2006	14	12	26
2007	15	13	28
2008	17	18	35
2009	22	12	34
2010	32	10	42
2011	16	20	36
2012	16	11	27
	166 (53.72%)	143 (46.28%)	309

### Frequency distribution of self-citations per article

Table 2 shows the frequency distribution of self-citations per article. Most of the articles (39.16%) have at least one self-citation. Articles with two self-citations (20.48%) occupy second place and articles with three self-citations (11.44%) occupy third place. The rest of the articles received self-citations between four and forty three each.

Table 2: Frequency distribution of self-citations per article

Frequency of self-citations	Number of articles with self-citations	Percentage
1	65	39.16
2	34	20.48
3	19	11.44
4	12	7.23

5	14	8.43
6	4	2.41
7	3	1.81
9	2	1.21
10	2	1.21
11	2	1.21
13	1	0.6
14	2	1.21
17	1	0.6
19	1	0.6
28	1	0.6
31	1	0.6
41	1	0.6
43	1	0.6
	166	100

### Frequency distribution of self-citations by year

It is clear from Table 3 that there are 636 numbers of self-citations in 5261 references, meaning that 12.08% of the references are self-citations. The maximum (30.9%) percentage of self-citations is in the year 2003 and minimum (6.45%) percentage is in the year 2012. There is no regular pattern of increasing or decreasing self-citations but from the year 2003 onwards, the overall trend is decreasing.

Table 3: Frequency distribution of self-citations by year

Year	Total number of self-citations	Total number of references	Percentage of self-citations
2002	39	162	24.07
2003	102	330	30.9
2004	17	159	10.69
2005	32	331	9.67
2006	65	386	16.84
2007	53	384	13.8
2008	65	591	10.99
2009	56	673	8.32
2010	106	961	11.03
2011	71	819	8.67
2012	30	465	6.45
	636	5261	12.08%

### Frequency distribution of different forms of Self-citations

Table 4 shows the division of self-citations into different types of self-citations. This division has already been discussed in the beginning of this paper namely Author self-citations, Author/Journal self-citations and Journal self-citations. The maximum percentage (60.69%) of self-citations is author self-citations, followed by 32.86% journal self-citations and 6.45% Author/Journal self-citations.

Table 4: Frequency distribution of different forms of self-citations

Year	Author self-citations	Author/Journal self-citations	Journal self-citations	Self-citations
2002	21	14	4	39
2003	82	1	19	102
2004	12	1	4	17
2005	18	2	12	32
2006	44	3	18	65
2007	27	2	24	53
2008	28	3	34	65
2009	21	6	29	56
2010	73	3	30	106
2011	40	5	26	71
2012	20	1	9	30
	386(60.69%)	41(6.45%)	209(32.86%)	636(100)

### Frequency distribution of journal self-citations by title

Table 5 represents the frequency distribution of journal self-citations by titles published from 1954-2012. ALIS is actually the continuation of Annals of Library Science which first appeared in 1954. Later in 1964 the journal's title was expanded to Annals of Library Science and Documentation and again renamed in 2001 as Annals of Library and Information Studies. Out of the total 250 journal self-citations, 140 (56%) are to Annals of Library and Information Studies, 110(44%) to Annals of Library Science and Documentation and none to Annals of Library Science. More than half of the articles contain self-citations of recent issues rather than earlier publications. In other words, the ALIS professionals are keeping themselves abreast with the latest trends in Library and Information Science.

Table 5: Frequency distribution of journal self-citations by title

Year	Annals of Library Science (1954-1963)	Annals of Library Science and Documentation (1964-2000)	Annals of Library and Information Studies (2001-2012)	Total number of journal self-citations.
2002	---	17	1	18
2003	---	18	2	20

2004	---	5	---	5
2005	---	6	8	14
2006	---	11	10	21
2007	---	15	11	26
2008	---	13	24	37
2009	---	11	24	35
2010	---	5	28	33
2011	---	4	27	31
2012	---	5	5	10
		110(44%)	140(56%)	250(100%)

### Self-citing authors in journal

After the careful investigation of the references of the journal, the results indicate the presence of self-citing authors in the journal's articles. Almost 1/5<sup>th</sup> of the authors cite themselves. A total of 121 (20.3%) authors cite themselves as compared to 475 (69.7%) authors who do not cite themselves. A low percentage of self-citing authors clearly reveals that the authors of this journal do not have the tendency to cite themselves.

### Frequency distribution of self-citing author

Table 6 reveals the frequency distribution of self-citing authors in the references appended to articles of the journal. Out of total 121 self-citing authors, 63 (52.06%) authors cite themselves only once in their articles while 17 (14.04%) authors cite twice followed by 7(10.74%) authors citing thrice. The rest of the authors cite themselves between four and 58 times. The highest number of self-citations by an author who cite himself is 78 times.

Table 6: Frequency distribution of self-citing author

Frequency of self-citing authors	Number of authors	Percentage
1	63	52.06
2	17	14.04
3	7	10.74
4	5	5.78
5	4	4.12
6	1	3.3
7	1	0.83
8	1	0.83
10	1	0.83
14	1	0.83



18	1	0.83
20	1	0.83
21	1	0.83
22	1	0.83
24	1	0.83
52	1	0.83
58	1	0.83
78	1	0.83
	121	100

### **Institution affiliation of self-citing authors**

As for as institutional affiliation of authors is concerned, the maximum (8.2%) self-citing authors are affiliated to Bhabha Atomic Research Centre followed by NISCAIR and CSIR-NISTAD (National Institute of Science, Technology and Development Studies) (4.9 % self-citing authors to each). The 15% of the self-citing authors are affiliated to 6 institutions (3 authors to each institution) and 16.5% of the self-citing authors belong to 10 different institutions (2 authors to each institution). The rest of the self-citing authors are affiliated to different institutions.

### **Ranked list of most self-citing authors**

Table 7 indicates ranked list of top most self-citing authors. V. L. Kalyane of Bhabha Atomic Research Centre, Mumbai is placed at rank 1<sup>st</sup> as he is the most (78 times) self-citing author, followed by B.K. Sen of INSDOC, New Delhi with 58. Rest of the author's affiliation is mentioned in table 7. There is no correlation between NISCAIR and highest self-citing author's institutional affiliation.

Table 7: Ranked list of most self-citing authors

Rank	Author	Institutional affiliation	Number of times cited
1	Kalyane, V. L.	Bhabha Atomic Research Centre Mumbai.	78
2	Sen, B. K.	*Indian National Scientific Documentation Centre (INSDOC), ND	58
3	Kademani, B. S.	Bhabha Atomic Research Centre Mumbai.	52
4	Gupta, B. M.	National Institute of Science, Technology & Development studies, New Delhi.	24
5	Leydesdroff, L.	University of Amsterdam	22
6	Kumar, V.	Bhabha Atomic Research Centre Mumbai	21
7	Panigrahi, P.	University of Calcutta.	20
8	Garg, K. C.	National Institute of Science, Technology and Development Studies, New Delhi.	18
9	Gupta, D. K	V M Open University, Kota	14

10	Ronald, R.	Association of K U Leuven. Belgium	10
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\*Renamed as NISCAIR in 2002.

### Comparison with other journals

The ratio of author self-citation to total self-citation in Shokeen and Kaushik (2004) study was 1:16.65 whereas it is 1:12.32 in the present study. Similarly, ratio of journal self-citation to total self-citation was 1:31.91 and 1:21.32 in the present study.

If compare results with the study carried out by Tiew indicates that there are 352 (8.4%) journal self-citations out of 4177 total citations. As the scope of the present study is quite broad, comparing the counter part of the present study, only 41(0.8%) out of 5261 citations are Author/Journal Self –citations.

Leblond (2012) investigated by using Web of Science online database that there are 12.8% synchronous self-citations whereas it is 8.11% in the present study. The study carried out by Kundu (1981) showed 14.9% self-citations in the *Annals of Library Science* (afterwards *Annals of Library Science and Documentation*) during 1954-1975. Now this percentage has come down to 12.08.

### Findings and Conclusions

Self-citation is a well-known aspect of referencing practice. Citation is dynamic and on-going phenomenon. A single year of citations is insufficient to define the self-citations practice of a journal, so several consecutive years of citations have been taken for the study. The findings of this study are summarized as below.

More than half of the contributions contain self-citations. This indicates that the journal is scholarly publication and well-known in the field of LIS and hence, frequently referred in this field of study. The range of self-citations per article is between one and forty three. There are total 5261 citations and only 636 (12.08%) are self-citations. Out of 636, 386 (60.69%) are Author self-citations, 209(32.86%) are Journal self-citations and 41(6.45%) are Author/Journal self-citations.

The study carried out by Tiew indicates 352 (8.4%) journal self-citations out of 4177 citations. As the scope of the present study is quite broad, comparing the counter part of the present study, only 41(0.8%) out of 5261 citations are Author/Journal Self –citations.

The journal appears under different titles from the year 1954 to 2012. About 56% of journal self-citations are from the present title. There is low percentage of author self-citations as only (20.3%) authors have cited themselves as compared to 475 (69.7%) authors who do not cite themselves. This clearly reveals that the authors of this journal do not have the tendency to cite themselves.

The frequency distribution of author self-citations is between one to 78 times. It indicates the existence of a series of continuous research being conducted by the respective researchers in their field of study and the results are published not only in the journal under study but other journals also which shows the broader outlook of the editors of this journal. The highest self-citing author is V. L. Kalyane, who is affiliated with Bhabha Atomic Research Centre.

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