Self Citation Practice by LIS Professionals : A Bibliometric Study based on PEARL Journal of Library & Information Science

Anil Kumar Dhiman

Abstract

Information Scientist, Gurukul Kangri University, Haridwar, Uttarakhand 249404, India.

Address for correspondence

Anil Kumar Dhiman, Information Scientist, Gurukul Kangri University, Haridwar, Uttarakhand 249404, India.

E-mail: akvishvakarma@rediffmail.com

Self citations which are the referencing of own previously published works in any article or research work is of common occurrence in the world of scholarly publication. Whether, self citations should be included or not? It is a complex question which depends on discipline to discipline. But more commonly self-citations to a certain extent are a legitimate practice. How LIS professionals react with self citation is studied in this paper. This study is based on 20 issues of 5 volumes of PEARL Journal of Library & Information Science. It is noted in the study that comparatively LIS professionals self cite less as compared to other fields of study.

Keywords: Bibliometrics; Citational study; Self citation; LIS professionals.

Introduction

Citations are the representations of a full bibliographical description for a paper, which an author has used while writing his paper (Sharma, 1981)[13]. Generally, these are given at the end of the paper indicating the previous publications related to that particular topic. No research usually stands alone rather it is based on another related researches conducted in that field and this relationship is reflected through citations provided in a research paper or an article. Citations provide sufficiently useful data and information on the visibility and use of certain documents– journals, articles and books etc. Garfield (1965) has given fifteen reasons for citing any document[6]. However, the norms may vary for citing from one discipline to another. In spite of the uncertainties associated with the nature of citations, these are attractive subjects of study because they are unobtrusive and readily available.

Citations are roughly a valid indicator of its significance and they provide a clue to what form of materials, at what level and how much of them are being used to support their findings. The scientific traditions require that when a scientist announces his findings he should refer to earlier findings of similar nature which are related to his theme. These references are supported to identify those earlier researchers whose concepts the author has used to shape his own concept. It is believed that when an item is cited, the citing author finds in the cited article something relevant to the topic of his work. Therefore, there is some degree of relationship between the citing work and the cited article or monograph (Roy, 1980)[12]. Besides, citation studies or analysis are also used to write the history of a subject and to identify the key turning points in the development of any subject (Baird and Oppenheim, 1994)[1].

What are Self-citations?

Self-citations are a common practice in scholarly publication where nearly 10% of references are found to be self-cited by a paper's authors. But in almost all academic fields, men cite their own research papers at a higher rate than women do (King *et al.*, 2016)[8]. However, Mishra, *et al.*, (2018) found self-citation as the hallmark of productive authors, of any gender, who cite their novel journal [and other] publications early and in similar venues, and more often cross citation-barriers such as language and indexing. Consequently, papers by authors with short, disrupted, or diverse careers miss out on the initial boost in visibility gained from self-citations[10].

Nevertheless, Fowler and Aksnes (2007) mention that if the authors or scholars have a strategic incentive to cite themselves, it may distort the information in citation counts and reduce their reliability as a proxy for quality or visibility[5]. Thus, it is important to know how prevalent self-citation is and how it influences citations from others. Fowler and Aksnes further add that many scholars have studied self-citations and some suggest that self-citations should be removed from citation counts, at least at micro and meso levels, for example, the analyses of persons, research groups, departments, and institutions. But in fact, some producers of bibliometric indicators have begun to identify and publish the proportion of self-citations in order to be able to draw more reliable conclusions about the real impact each publication has on the scientific community.

Earlier Studies

It is seen that not many studies have been carried out in this field. However, self-citations have their own importance. A brief review on some of the important studies carried out in this field is given below.

Dhiman (2002) has studied the self-citing behaviour of library scientists based on the articles published in ILA Bulletin during 1996-2000. He concludes that though some of the self-citations are contributed by library scientists, yet this practice is not so common among them[3].

Hutson (2006) has conducted a study on the self-citation in archaeology and systematically analyzes the factors that affect the rates of self-citation. He observed that the self-citation rates in archaeology are significantly higher than in socio-cultural anthropology but are average for a social science with interdisciplinary ties to the physical sciences.

However, self-citation correlates weakly with the gender of the citing author and the geographic and thematic focus of research, but correlates strongly with the age of the author[7].

Rattan (2013) has studied the extent of self-citations in Annals of Library and Information Studies for the period of 2002-2012. The study indicates that 53.72% of the articles contain self-citations. Further, out of total 5261 citations, 636 (12.08%) citations are self-citations. However, the frequency of self-citations per article ranges from one to forty three. Besides, almost 1/5th authors have been found to cite themselves but most of the citations appear in the present title of the journal[11].

Masoumi *et al.* (2014) have studied the self citation rate of Iranian and Turkish journals indexed in ISI using ISI-database journal citation report from Thomson-Reuters, JCR 2012. The results of the study show that the total number of Iranian and Turkish articles is 4017 and 7260 respectively and the mean self-citations were 26% for journals from both countries. Authors conclude that although self-citation is quite high in both countries, Iranian journals had higher IF (total and without self-citation) as compared to the Turkish journals[9].

DesArmo (2015) has investigated the self-citation patterns in information science by taking a comparison of self-citation rates in JASIST, a leading journal in information retrieval, and a journal in an unrelated field[2]. The results of the study suggest that there may be irregularities in the self-citation rates among information retrieval authors. But self-citation rate in JASIST is nearly three times that of a journal in an unrelated field.

Dhiman (2015) has conducted another study on the self-citation made by ethnobotanists for their articles. This study was based on the citational study of Ethnobotany journal for 20 years duration from 1989 to 2008. He concludes that self-citations are made by ethnobotanists in developing and writing their articles in the field of ethnobotany[4].

Objectives of the Study

The major objectives of the present study are:

- To ascertain the number of articles published during the years for which study is undertaken, i.e. from 2014–2018.

- To ascertain the authorship pattern of LIS professionals.

- To categorize the authors by percentage of their contribution.

- To know the top most contributors/authors in contributing the articles.

- To ascertain the average page length of the articles.

- To know the number of references/citations given per article.

- To ascertain the nature of citations.

- To ascertain the number of self-cited articles.

- To know author wise distribution of self-citation, and.

- To know the frequent authors who make self-citations.

Source Journal

PEARL Journal is an official publication of University Library Teachers' Association of Andhra Pradesh. It is a peer reviewed quarterly journal which aims to tap the writing skills of Library Professionals, especially those who are working in rural areas and the professionals in general. It is indexed/abstracted in Scientific Journal, Indian Citation Index, NAAS, InfoBase Index, Google Scholar, EBSCO Discovery, Summon (ProQuest), CNKI Scholar, Primo and Primo Central, J-Gate, Cite Factor, DRJI, ISRA-JIF, IIJIF, I2OR, and ESJI.

By the end of 2018, its 12 volumes have been published and out of them, 5 volumes starting from 2014 to 2018 are used in the present study to ascertain the pattern of self-citations among library professionals.

Methodology and Data Analysis

The articles that had appeared in PEARL journal of library and information science in its 5 volumes during 2014 to 2018 were selected for the present study. Each article and its citations were recorded on the cards to study and were used to cross check the various objectives as stated above.

Year Wise Distribution of Paper

Table 1 gives the details of year-wise distribution of articles published during 2014 to 2018 in various issues of PEARL journal. It is very clear that all 219 articles were published during the period, where maximum number of 55 articles was published in the year 2017 and minimum 36 were published during 2014. They constitute 25.11% and 16.43% respectively.

Table 1: Year Wise Distribution of Articles

S. N.	Volume (Year)	No. of Articles	Percentage of Paper	Cumulative Percentage
1.	8 (2014)	36	16.43	16.43
2.	9 (2015)	37	16.89	33.32
3.	10 (2016)	42	19.17	52.49
4.	11 (2017)	55	25.11	77.60
5.	12 (2018)	49	22.37	99.97 = 100.00

Figure 1 also clarifies year wise distribution of articles published in PEARL journal during 2014-2018.
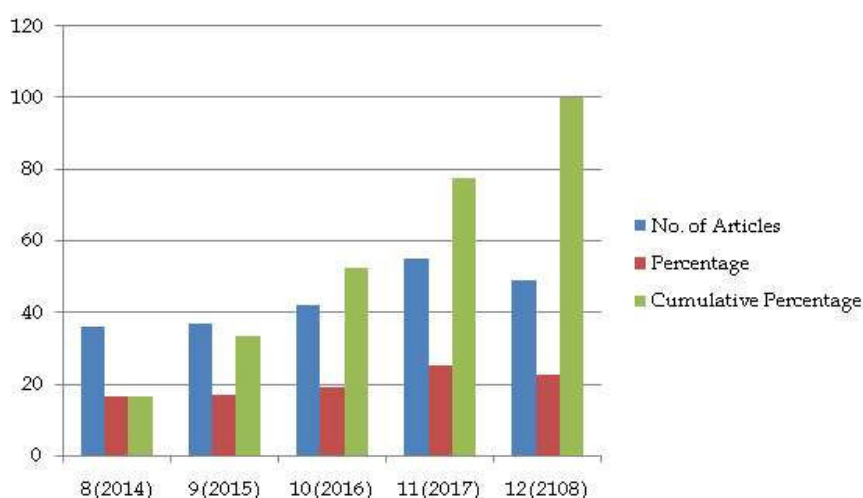

Fig. 1: Year Wise Distribution of Articles

Table 2: Authorship Pattern

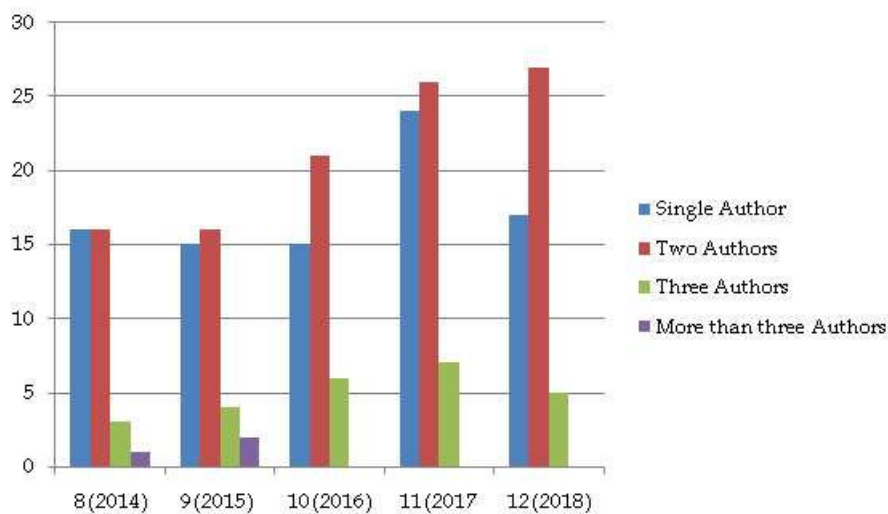| S.N.	Volume (Year)	Single Author	Two Authors	Three Authors	More than three Authors	Total	Percentage
1.	8 (2014)	16	16	03	01	36	16.43
2.	9 (2015)	15	16	04	02	37	33.32
3.	10 (2016)	15	21	06	00	42	52.49
4.	11 (2017)	24	26	07	00	55	77.60
5.	12 (2018)	17	27	05	00	49	99.97 = 100.00
	Total	87	104	25	03	219	100.00

Fig. 2: Authorship Pattern

Table 3: Categorization of Authors by Percentage

S.N.	Category of Authors	Total No. of Articles	Percentage	Cumulative Percentage
1.	Single	87	39.72	39.73
2.	Two Authors	104	47.48	87.20
3.	Three Authors	25	11.41	98.61
4.	More than Three Authors	03	1.36	99.97
	Total	219	99.97 = 100.00	

Authorship Pattern

Table 2 details out the authorship pattern of the articles contributed by different workers from time to time. It is clear that majority of the articles are written by two authors followed by single authored articles. They form 104 and 87 articles respectively.

Further, some of the articles were contributed by more than three authors but their number is very less as compared to single and two authored articles.

Thus, it can be inferred that collaboration among LIS professional exist as majority of the articles are contributed by two and more than two authors.

It is also illustrated through figure 2 very well.

Categorization of Authors by Percentage:

Table 3 is about the percentage wise category of the authors. It may be seen clearly that 47.48% articles are contributed by two authors, followed by 39.72% articles by single authors. However, 11.41% articles are contributed by three authors and a few consisting of 1.36%, are written by more than three authors.

Thus, majority of the articles are written in collaboration of two or more than two authors by LIS professionals.

Topmost Authors

It is noted in the study that most of the authors have contributed one article each in various issues of the journal, but there are the authors who have contributed more than one article.

Table 4 gives the listing of topmost authors who have contributed at least 2 articles in various issues of PEARL journal. It is seen that two authors each (L Atchamamba and CP Ramasesh) have contributed 5 articles each followed by 4 articles by DB Ramesh and three and two by many authors.

However, majority of the authors have contributed only one article in various issues of this journal.

Table 4: Topmost Authors

S. N	Name of the Author	No. of Articles Contributed
1.	Atchamamba, L	5
2.	Ramasesh, CP	5
3.	Ramesh, DB	4
4.	Doraswamy Naick, BR	3
5.	Ganai, SA	3
6.	Gomathi, P	3
7.	Kattimani, PS	3
8.	Mishra, M	3
9.	Oza, ND	3
10.	Ray, AK	3
11.	Sonkar, SS	3
12.	Aswath, L	2
13.	Baidwan, K	2
14.	Bellary, RN	2
15.	Chavan, KR	2
16.	Das, KC	2
17.	Dhiman, AK	2
18.	Dinesh, KS	2
19.	Hussain, A	2
20.	Kaushik, A	2
21.	Kishore, KS	2
22.	Kumar, D	2
23.	Kumar, P	2
24.	Leeladharan, M	2
25.	Lokesha, N	2
26.	Mahajan, P	2
27.	Naik, RR	2
28.	Naraanaswamy, BY	2
29.	Nikam, K	2
30.	Padmamma, S	2
31.	Padmavath, N	2
32.	Panday, M	2
33.	Papanna, S	2
34.	Pattanaik, B	2
35.	Pervez, A	2
36.	Prabhakar, G	2
37.	Ramakrishna, K	2
38.	Ramesh, R	2
39.	Rani, S	2
40.	Ravikumar, S	2
41.	Ravinder, D	2
42.	Sasikala, C	2
43.	Sengar, KPS	2
44.	Sevukan, R	2
45.	Shamsaei, AH	2
46.	Sharma, P	2
47.	Shivakumaraswamy, KN	2
48.	Singh, M	2
49.	Sivasubramaniam, G	2
50.	Somasekhara Rao, K	2
51.	Suseela, VJ	2
52.	Veerabasavaiah, M	2
53.	Verma A	2
54.	Walmiki, RH	2

Page Wise Length of Articles

Generally, the research articles are finished in 1–10 pages but review types of the articles are finished in more pages. Page wise length of the articles published in PEARL journals is shown in Table 5.

It may be seen from the table that maximum number of articles that is 151 are finished in 6–10

Table 5: Page Wise Length of Articles

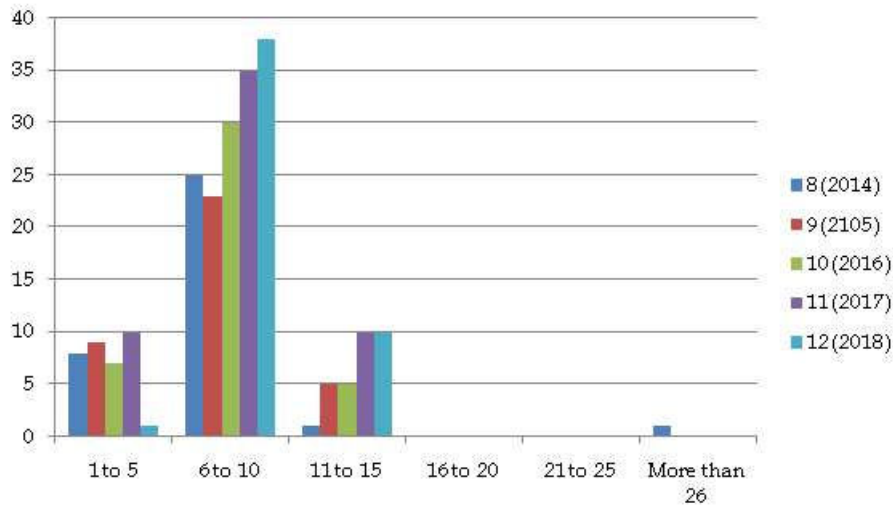| Page Range	Vol. 8 (2014)	Vol. 9 (2015)	Vol. 10 (2016)	Vol. 11 (2017)	Vol. 12 (2018)	Total	Percentage
1–5	08	09	07	10	01	36	16.43
6–10	25	23	30	35	38	151	68.94
11–15	01	05	05	10	10	31	14.15
16–20	00	00	00	00	00	00	00.00
21–25	00	00	00	00	00	00	00.00
26>	01	00	00	00	00	01	00.45
Total	36	37	42	55	49	219	99.97 = 100.00

Fig. 3: Page Wise Length of Articles

Table 6: Frequency of References Cited

Range of References	Vol. 8 (2014)	Vol. 9 (2015)	Vol. 10 (2016)	Vol. 11 (2017)	Vol. 12 (2018)	Total
1−10	18	16	20	30	25	109
11−20	14	14	15	18	18	79
21−30	03	06	06	05	05	25
31−40	01	00	01	02	01	05
41−50	00	01	00	00	00	01
Total	36	37	42	55	49	219

Table 7: Nature of Citing Materials

Volume (Year)	Journals	Dissertation	PhDs	Books	Edited Books	Proceedings	Others	Total
8 (2014)	09	-	-	-	-	05	-	14
9 (2015)	03	-	-	-	02	02	-	07
10 (2016)	11	-	-	-	05	-	-	16
11 (2017)	17	-	-	02	-	02	-	21
12 (2018)	15	-	-	-	-	02	01	18
Total	55	-	-	02	07	11	01	76

pages which means they are the original articles or the primary articles contributed in the field. It is followed by 36 articles finished in 1–5 pages and by 31 articles finished in 11–15 pages. Only 1 article is seen to be finished in more than 26 pages and it may be considered a review type of the article.

The page wise length of the articles is also shown in Figure 3 more clearly.

Frequency of References Cited

Further, original or primary information containing articles have less number of references as compared to review types of the articles.

It may be seen from table 6 that 109 articles possesses 1–10 references which is followed by 79 articles having 11-20 references. However, there are a few articles which possess 31–40 references and 1 article is known to have 41–50 references.

Thus, majority of the articles are having appropriate number of references.

Nature of Citing Materials

What the LIS professionals cite in writing their articles is depicted in table 7. It may be seen from this table that maximum number of documents they cited, formed 55 journals and minimum number of document type are the books which are cited twice. However, journals also have print journals and

their online counter parts both.

Besides, 7 edited books and 11 proceedings are also cited by the LIS professionals while they developed their articles / research articles.

Thus, it may be inferred that journals are the most preferred form of documents used by LIS professionals.

Number of Self – Citing Articles

There are 219 articles which have been published during 2014 to 2018 in volume 8 to 12 of PEARL journal. Table 8 clearly depicts that out of 219 articles, 47 articles have self-citation. Maximum numbers of self-citation articles are published in volume 12 where 12 articles were noted to possess self-citation and minimum numbers of articles were published in 2015 where only 7 articles were found to have self-citation.

But percentage wise maximum number of articles with self-citation were noted in 2014 and minimum number of articles with self – citation in 2015 which constitute to 25% and 18.91% respectively.

Further, number of self citing articles with their percentage of self citation is also shown by figure 4 more clearly.

Author Wise Self-Citation

Author wise self-citations are depicted in table 9 to 11 where self-citation by first, second and third author is shown in different tables.

Table 9 is about the self-citation by first author. It is very clear that most of the time, first authors have put themselves as a first author in self-citation. It means that the articles which are cited by first authors have been written by the first author, which supports that authors themselves are writing

Table 8: Number of Self – Citing Articles

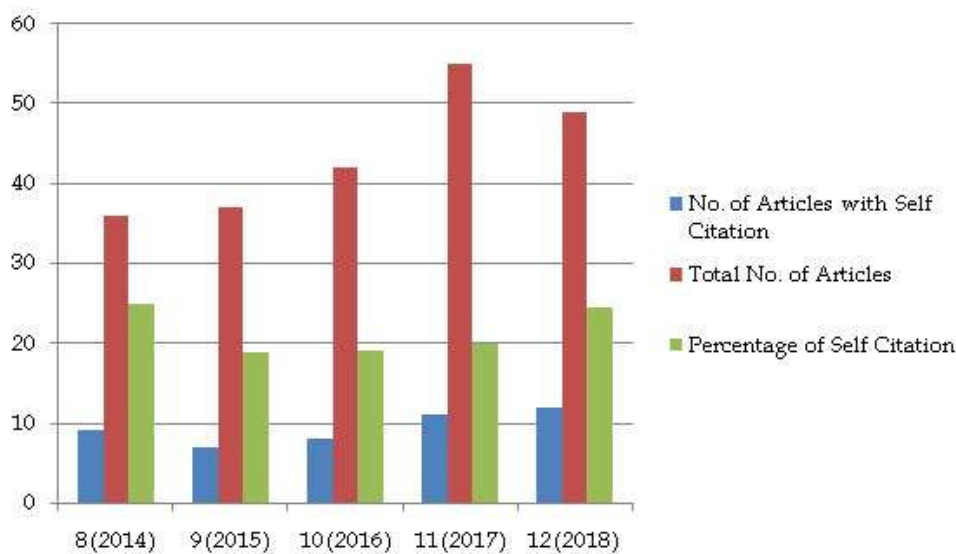| S. N.	Volume (Year)	No. of Articles with Self-Citation	Total No of Articles	Percentage of Self-Citation
1.	8 (2014)	09	36	25.00
2.	9 (2015)	07	37	18.91
3.	10 (2016)	08	42	19.04
4.	11 (2017)	11	55	20.00
5.	12 (2018)	12	49	24.48
	Total	47	219	21.46

Fig. 4: Number of Self – Citing Articles

Table 9: Self Citation by First Author

Name of the Author	Ist Position	IInd Position	Other Position	Self Citation / Total Citation in particular Article	Percentage of Self-Citation in Particular Article
Adhikary, B		1		1/18	5.50
Baskaran, C	1			1/16	6.25
Bilawar, PB	1			1/11	9.09
Chauhan, K	1			1/7	14.28
Das, KC	1			1/22	4.54
Dash, S	1			1/7	14.28
Doraswamy Naick, BR	1	1		2/19	10.52
Harinarayana, NS	1			1/15	6.60
Hussain, A	10 (in 2 articles)			10/43	23.25
Jena, KL	1			1/25	4.00
Kalaippan, V	1			1/15	6.66
Kattimani, PS	1			1/8	12.50
Kaushik, A	4 (in 2 articles)			4/43	9.30
Krishnamurthy, C	1			1/10	10.00
Kumar, A	1			1/19	5.26
Kumar, Kishore, S	2			2/16	12.50
Lone, M	1			1/22	4.54
Mendhe, R	1			1/6	16.66
Muthu, M	8			8/25	32.00
Naik, L	1			1/6	16.66
Nawalo, KN	1			1/24	4.16
Nawarathane, IM	1			1/13	7.69
Padmma, S	1	2		3/10	15.00
Parmeshwar, S	1			1/20	5.00
Parvez, A	1			1/38	2.63
Prabhakar, G	1			1/8	12.50
Ramasesh, CP	1			1/7	14.28
Ramesh, R	1			1/17	5.88
Ranganathan, C	2	1		3/11	27.27
Ray, AK	1			1/20	5.00
Sahoo, B	1			1/21	4.76
Sambo, AS	1			1/40	2.50
Saravanana, T	4			4/10	40.00
Sharma, C	1			1/23	4.34
Shivaraja, O		1		1/13	7.69
Swain, DK	3	1		4/14	28.57
Thavamani, K	1	1		2/18	11.11
Veerabasavaiah, M	1			1/13	7.69
Velmurugan, C	1			1/15	6.66
Vyas, M	1			1/16	6.25

Table 10: Self Citation by Second Author

Name of the Author	Ist Position	IInd Position	Other Position	Self Citation / Total Citation in particular Article	Percentage of Self-Citation in Particular Article
Banerjee, S	1			1/18	5.55
Doraswamy Naick, BR		1		1/17	5.88
Kadayan, S		1		1/23	4.34
Nair, KL		2		2/16	12.50
Ramakrishnagouda, KC		1		1/4	25.00
Ramesh,	1			1/19	5.26
Ramesh, DB		1		1/20	5.00
Saikia, M	1			1/17	5.88
Suresh, GP	1			1/13	7.69
Swain, CK	1			1/14	7.14
Walmiki, RH		1		1/10	10.00
Total	6	7			

on the same pattern where they have published the articles earlier. Thus, a trend pattern is set by them and they write on the same pattern regularly.

Table 10 details out the self citations made by the second authors at various places. It is clear that second authors also tend to cite themselves at first position because out of 11 self cited authors, 6 times

Table 11: Self Citation by Third Author

Name of the Author	Ist Position	IInd Position	Other Position	Self Citation/ Total Citation in particular Article	Percentage of Self-Citation in Particular Article
Adhikary, S			1	1/18	5.55
Gohain, A		1		1/17	5.88
Mahapatra, RK	3			3/12	25.00
Prithviraj, KR			3	1/4	25.00
Rautaray, B			1	1/14	7.14

Table 12 A: Combined List of Self-Cited Authors

S. N.	Name of the Author	Total No. of Self Citation
1.	Adhikary, B	1
2.	Adhikary, S	1
3.	Banerjee, S	2
4.	Baskaran, C	1
5.	Bilawar, PB	1
6.	Chauhan, K	1
7.	Das, KC	1
8.	Dash, S	1
9.	Doraswamy Naick, BR	3
10.	Gohain, A	1
11.	Harinarayana, NS	1
12.	Hussain, A	10
13.	Jena, KL	1
14.	Kadayan, S	1
15.	Kalaippan, V	1
16.	Kattimani, PS	1
17.	Kaushik, A	4
18.	Krishnamurthy, C	1
19.	Kumar, A	1
20.	Kumar, Kishore, S	2
21.	Lone, M	1
22.	Mahapatra, RK	3
23.	Mendhe, R	1
24.	Muthu, M	8
25.	Naik, L	1
26.	Nair, KL	2
27.	Nawalo, KN	1
28.	Nawarathane, IM	1
29.	Padmma, S	3
30.	Parmeshwar, S	1
31.	Parvez, A	1
32.	Prabhakar, G	1
33.	Prithviraj, KR	1
34.	Ramakrishnagouda, KC	1
35.	Ramasesh, CP	1
36.	Ramesh,	1
37.	Ramesh, DB	1
38.	Ramesh, R	1
39.	Ranganathan, C	3
40.	Rautaray, B	1
41.	Ray, AK	1
42.	Sahoo, B	1
43.	Saikia, M	1

44.	Sambo, AS	1
45.	Saravanana, T	4
46.	Sharma, C	1
47.	Shivaraja, O	1
48.	Suresh, GP	1
49.	Swain, CK	1
50.	Swain, DK	4
51.	Thavamani, K	2
52.	Veerabasavaiah,M	1
53.	Velmurugan, C	1
54.	Vyas, M	1
55.	Walmiki, RH	1

Table 12 B: Most Productive Self-Cited Authors

S. N.	Name of the Author	Total No. of Self Citation
1.	Hussain, A	10
2.	Muthu, M	8
3.	Kaushik, A	4
4.	Saravanana, T	4
5.	Swain, DK	4
6.	Doraswamy Naick, BR	3
7.	Mahapatra, RK	3
8.	Padmma, S	3
9.	Ranganathan, C	3
10.	Banerjee, S	2
11.	Kumar, Kishore S	2
12.	Nair, KL	2
13.	Thavamani, K	2
14.	Adhikary, B	1
15.	Adhikary, S	1
16.	Baskaran, C	1
17.	Bilawar, PB	1
18.	Chauhan, K	1
19.	Das, KC	1
20.	Dash, S	1
21.	Gohain, A	1
22.	Harinarayana, NS	1
23.	Jena, KL	1
24.	Kadayan, S	1
25.	Kalaippan, V	1
26.	Kattimani, PS	1
27.	Krishnamurthy, C	1
28.	Kumar, A	1
29.	Lone, M	1
30.	Mendhe, R	1
31.	Naik, L	1
32.	Nawalo, KN	1
33.	Nawarathane, IM	1
34.	Parmeshwar, S	1
35.	Parvez, A	1
36.	Prabhakar, G	1
37.	Prithviraj, KR	1
38.	Ramakrishnagouda, KC	1
39.	Ramasesh, CP	1
40.	Ramesh,	1

41.	Ramesh, DB	1
42.	Ramesh, R	1
43.	Rautaray, B	1
44.	Ray, AK	1
45.	Sahoo, B	1
46.	Saikia, M	1
47.	Sambo, AS	1
48.	Sharma, C	1
49.	Shivaraja, O	1
50.	Suresh, GP	1
51.	Swain, CK	1
52.	Veerabasavaiah, M	1
53.	Velmurugan, C	1
54.	Vyas, M	1
55.	Walmiki, RH	1

they are cited at first position which means that they have been at the first place in earlier articles which are being cited by them in present paper.

However, the authors which are at third place or the other not bothered much about their positions. It means that either they are not mature enough or are not so much popular among the learned fraternity so that they could contribute independently. Thus, they might be happy to be cited at other places. It is much more clearly shown in table 11.

Table 12 presents a concise list of authors who have self-cited their articles in various later articles published in PEARL Journal. In total 55 authors were identified as the self-citers.

Further, Table 12 B shows the list of authors in alphabetical sequence. It is clear from Table A that Hussain is at the top of self-cited authors who has contributed 10 self-citations in later articles which have appeared in the PEARL Journal, which is followed by 8 self-citations by M. Muthu. Besides, A. Kaushik, T. Saravanana, and DK Swain have 4 self-citations each.

Major Findings

Major findings of the study are as follows:

1. Total 219 articles were published in PEARL Journal during 2014 to 2018. Out of them, 55 articles that is the maximum were published in 2017 and the minimum of 36 articles were published during 2014. They constitute 25.11% and 16.43% respectively.

2. Out of 219 articles, 104 articles were written by two authors and 87 by single author. This constitutes 47.48% and 39.72% respectively. Thus, collaborative authorship is prevalent among LIS professionals.

3. Out of 219 contributions, maximum contribution is made by 95 authors in volume 2017 and a minimum of 60 contributions are made by authors in volume 2014.

4. L. Atchamamba and CP Ramasesh have contributed 5 articles each followed by 4 articles by DB Ramesh and three and two by many authors. But majority of the authors have contributed only one article in this Journal.

5. Out of 219 articles, 151 articles are finished in 6–10 pages which means they are the original articles. It is followed by 36 articles finished in 1–5 pages and by 31 articles finished in 11–15 pages. Only 1 article is seen to be finished in more than 26 pages.

6. Out of 219 articles, 109 articles possess 1–10 references which are followed by 79 articles having 11-20 references. However, there are a few articles which possess 30–40 references and 1 article is known to have 41–50 references.

7. Out of the total citing document types, 55 are the journals which are maximum and minimum number of document type are the books which are cited twice. Besides, 7 edited books and 11 proceedings are also cited by the LIS professionals while they developed their articles/research articles.

8. A maximum of 47 articles have self-citation, among which maximum number of self-citation articles are published in volume 12 where 12 articles were noted to possess self-citations and minimum

number of articles were published in 2015 where only 7 articles were found to have self-citations.

9. A. Hussain is at the top of self-cited authors, who has contributed 10 references in later articles appeared in PEARL Journal, which is followed by 8 self-citations by M. Muthu. Besides, A. Kaushik, T. Saravanana, and DK Swain have 4 self-citations each.

Conclusion

Thus, it is seen that five volumes (20 issues) of PEARL journal that is an official publication of AP Teachers' Association were analyzed to study self-citation among the Library & Information Science (LIS) professionals. It is concluded that though self-citing practice is present among the authors but it is not as much as prevalent as it could be. Out of total 219 articles, only 47 of them were noted to cite self–citations whereas 55 authors have referred to their earlier publications. It is also seen that journals were noted as the most preferred cited material, with 55 citations for journals being made and books were cited only twice.

This study was carried out by taking a small sample of 20 issues of 5 volumes; however, more concrete results may further be obtained by taking larger sample of the population, which means that by taking more issues of the journals or of different journals being published in library & information science field.

References

1. Baird LM, Oppenheim C. Do Citations Matter? Journal of Information Science. 1994;20(1):2–15.

2. DesArmo J. Comparative Investigation of Self-Citation Patterns in Information Science: A Pilot Study. 2015. Available from https://www.ideals. illinois.edu/bitstream/handle/2142/73748/447_ready.pdf?sequence=2 [Accessed March 2015].

3. Dhiman AK. Self Citation Behaviour of Library Scientists: A Case Study of ILA Bulletin. CLIS Observer. 2002;19:31–35.

4. Dhiman AK. Bibliometric Studies in Ethnbotany. SSDN Publishers & Distributors. New Delhi; 2015.

5. Fowler JH, Aksnes DA. Does Self-Citation Pay? Scientometrics, 2007;72(3):427–437.

6. Garfield E. Can Citation Indexing be automated? In: E. Mary Stevens *et al.* (Eds). Statistical Association Methods for Mechanized Documentation. National Bureau of Statistics, Washington DC; 1965.pp. 189–92.

7. Hutson SR. Self-Citation in Archaeology: Age, Gender, Prestige, and the Self. Journal of Archaeological Method and Theory. 2006 Mar;13(1):1-18. Available from https://www. brown.edu/Departments/Joukowsky_Institute/ courses/representingthepast/files/1033360.pdf [Accessed March 2006].

8. King MM, Bergstrom Carl T, Correll, *et al*. Men Set Their Own Cites High: Gender and Self-citation across Fields and over Time. Socius:Sociological Research for a Dynamic World. 2016;3:1–22.

9. Masoumi S, Foroughi Z, Arabi M, *et al*. Citation and Self-Citation Rates of Iranian and Turkish Journals Indexed in ISI. International Journal of Medical Investigation. 2014;3(2):67–71.

10. Mishra S, Fegley BD, Diesner J, *et al*. Self-citation is the Hallmark of Productive Authors of any Gender. PLoS ONE. 2018;13(9).

11. Rattan GK. Self-Citations in Annals of Library and Information Studies. Library Philosophy and Practice. 2013:924. [e-journal]. Available from http://digitalcommons.unl.edu/libphilprac/924 [Accessed March 2019].

12. Roy R, Paul M. Citation Analysis: A New Tool for the Modern Librarian. IASLIC Bulletin. 1980;25(3):109–116.

13. Sharma RC. Citation Patterns and Analysis. ILA Bulletin. 1981;17(3–4):254.