

Bibliometric analysis with special reference to Authorship Pattern and Collaborative Research Output of Annals of Library and Information Studies for the Year 2007 - 2012

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ABSTRACT

The present study aims to investigate the bibliometric analysis of 203 articles appearing in Annals of Library and Information Studies journal selected six years for a period between 2007 and 2012. The highest number of contributions i.e., 43 (21.19 %) were published in the year 2010. It was found that the most of the contributions are by two authored i.e., 88 (43.35 %). It was also noted that out of 203 articles single author contributed only 72 (35.46 %) articles while the rest 131 (64.54 %) articles were contributed by joint authors. The degree of collaboration ranges from 0.57 to 0.82 and the average degree of collaboration is 0.64. The total average number of authors per paper is 1.87 and the average productivity per author is 0.53.

Keywords: Bibliometrics; Authorship Pattern; Degree of Collaboration; Annals of Library and Information Studies; Publication Analysis; NISCAIR.

INTRODUCTION

Annals of Library and Information Studies earlier published as Annals of Library Science and Documentation is a well-known leading journal in the field of library and information science published from India. It is a leading quarterly journal, published by the National Institute of Science Communication and Information Resources (NISCAIR), New Delhi. NISCAIR is publishing original papers, survey reports, reviews, short communications, and letters pertaining to library science, information science and computer applications in these fields. The journal's title was expanded to Annals of Library Science and Documentation in 1964 and again renamed in 2001 as Annals of Library and Information Studies.

RELATED STUDIES

Thanuskodi S (2011) analysed the journal titled "Library Herald" for the period between 2006 and 2010. The analysis covered mainly the number of articles, authorship pattern, subject wise distribution of articles, average number of references per articles, forms of documents cited, year wise distribution of cited journals etc. It was found that all the studies point towards the merits and weakness of the journal which will be helpful for its further development. The result showed that out of 138 articles single author contributed 72 (52.17%) articles while the rest 66

(47.83%) articles were contributed by joint authors. The study revealed that most of the contributions are from India with 89.85 % and the rest 10.15 % only from foreign sources.

Naseer (Mirza Muhammad) and Mahmood (Khalid) (2009), discussed and concluded on the basis of the preceding review of literature and that bibliometric studies were very useful for LIS professionals for evaluating library services, collection development, policy making and refinement, decision making, resource allocation, analysis of curriculum and quality assessment of research output. These studies had the potential to determine the causes of problems faced by the LIS profession. It was found that the LIS profession in Pakistan needed statistical data produced by bibliometric methods to solve issues hampering its growth.

Tsay (Ming-Yueh), 2011, conducted the study was to explore the journal bibliometric characteristics of the *Journal of Information Science* (JIS) and the subject relationship with other disciplines by citation analysis. The citation data were drawn from references of each article of JIS during 1998 and 2008. The databases like Ulrich's Periodical Directory, Library of Congress Subject Heading, retrieved from the WorldCat and LISA database were used to identify the main class, subclass and subject of cited journals and books. The results was found that the journal articles are the most cited document, followed by books and book chapters, electronic resources, and conference proceedings, respectively.

Davarpanah M R and Aslekia (2008), were studied the productivity, characteristics and various aspects of global publication in the field of library and information science (LIS). A total of 894 contributions was published in 56 LIS journals indexed in SSCI during the years of 2000–2004 were analyzed. A total of 1361 authors had contributed publications during the five years. The overwhelming majority (89.93%) of them wrote one paper. The average number of authors per paper is 1.52. The sum of research output of the authors form USA and UK reaches 70% of the total productivity. Most papers received few citations. Each article was received on an average 1.6 citations and the LIS researchers cite mostly latest articles. About 48% of citing authors had tendency of self-citation.

Gupta, B M; Bala, A and Kshitig, A (2013), analysed the global publications output in cataract research during 2002-11 on several parameters including contribution & citation impact of top 15 most productive countries, different types of cataract research, research output by different population age groups, subject-wise break-up of research output, relatedness of various diseases to cataract research, research contribution. The Scopus Citation Database had been used to retrieve the data for 10 years (2002-11) by searching the keywords “cataract” in the combined Title, Abstract and Keywords field. The world publication output in cataract research consisted of 27053 papers during 2002-11, which increased from 2025 papers in 2002 to 3080 papers in 2011, witnessing an annual average growth rate of 4.89%. The average citation impact per paper registered by world publications was 6.94 during 2002-11, which decreased from 7.82 during 2002-06 to 5.21 during 2007-11

Thavamani, K. (2013). Identified and analysed the growth and authorship pattern of productivity of articles of source journal "DESIDOC Journal of Library & Information

Technology". It was found that from the study that the year 2008 was most participating year during the study period 2007 - 2011. The Relative Growth Rate (RGR) was high in terms of literature productivity and Degree Collaboration (DC) was also high in terms authorship pattern i.e., 108 out of 194 (0.556), and many more features were identified.

OBJECTIVES OF THE STUDY

- To identify the year wise contributions for a period of study
- To analyze the authorship pattern
- To study the period and volume wise authorship pattern
- To examine the author's productivity
- To scrutinize the single and multi-authored papers of the journal and
- To find out the Degree of collaboration

METHODOLOGY

Twenty four issues of six volumes from 2007 to 2012 have been selected six years for the study. For each article, year wise distribution of contributions, number of authorship, volume wise authorship, author's productivity and the single and multi-authored papers were noted down for the study. The data was collected from Annals of Library and Information Studies journal website <http://www.niscair.res.in/> pertaining to period from 2007 to 2012. These data were organized, calculated, tabulated, analyzed and presented by using simple arithmetic and statistical methods for its results.

RESULTS AND DISCUSSION

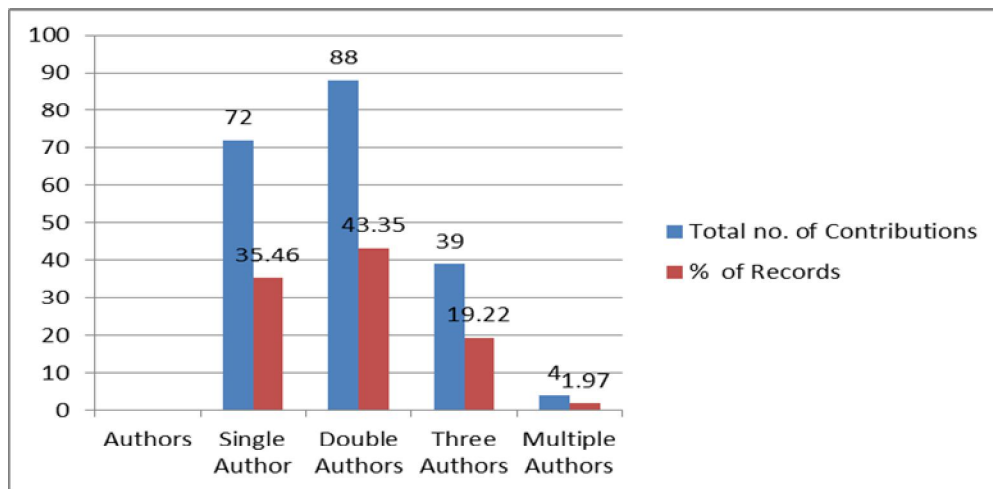
Table 1. Year wise Distributions

S. No	Year	No. of Articles	% of Records
1	2007	28	13.79
2	2008	35	17.24
3	2009	34	16.74
4	2010	43	21.19
5	2011	36	17.73
6	2012	27	13.31
Total		203	100.00

The year-wise distributions of paper are arranged in table-1, which shows the highest number of contributions i.e., 43 (21.19 %) were published in the year 2010. The minimum number of 27 (13.31 %) was published in the year 2012.

Table 2. Authorship Pattern

S. No	No. of Authors	Total no. of Contributions	% of Records
1	Single Author	72	35.46
2	Double Authors	88	43.35
3	Three Authors	39	19.22
4	Multiple Authors	4	1.97
Total		203	100.00



Graph 1. Authorship Pattern

The table.2 shows the details about the authorship pattern of articles published during the period of study. Out of total of 203 articles, the maximum number of contributions i.e. 88 (43.35%) have been contributed by single author and followed by 72 contributions (35.46%) and 39 contributions (19.22%) and the minimum number of contributions i.e. 4 (1.97%) by four authors.

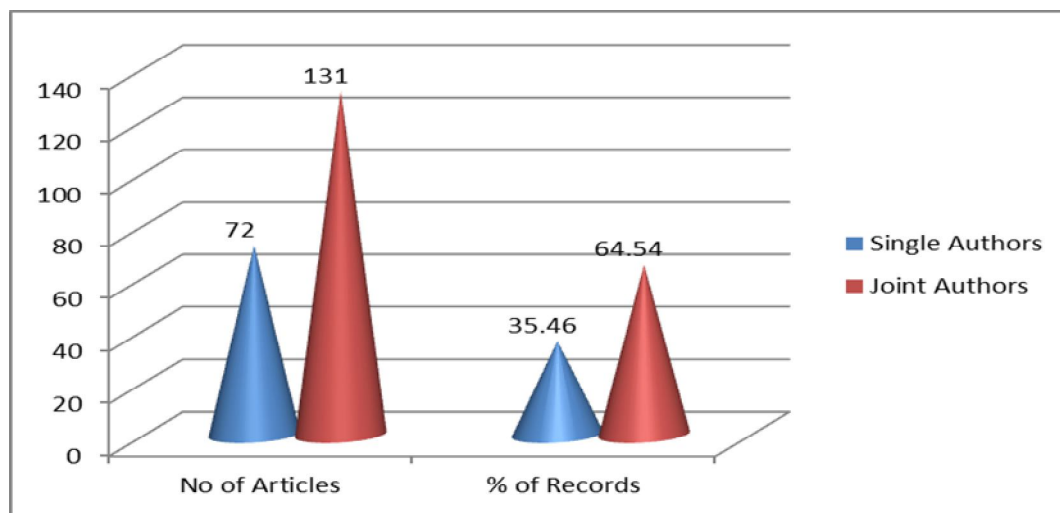
Table 3. Period / Volume wise Authorship Pattern

S. No	Year	Volume	Single Author	Two Authors	Three Authors	More than Three Authors	Total	% of Records
1	2007	54	12	10	6	0	28	13.79
2	2008	55	12	16	6	1	35	17.24
3	2009	56	6	19	9	0	34	16.74
4	2010	57	17	18	6	2	43	21.19
5	2011	58	14	15	6	1	36	17.73
6	2012	59	11	10	6	0	27	13.31
Total			72	88	39	4	203	100.00
Percentage (%)			35.46	43.35	19.22	1.97	100.00	

The table shows volume wise authorship pattern of contributions. It indicates that out of the 72 contributions of single author, volumes 57 has the highest number i.e., 17 (23.61 %) whereas the volume 56 has the lowest number i.e. 6 (8.33 %) contributions. Out of the 88 contributions by two authors, vol. 56 has the highest i.e. 19 (21.59 %) and vol. 54 and 59 have the lowest number i.e., 10 (11.36 %) contributions. Out of 39 contributions by three authors, vol. 56 has the highest i.e. 9 (23.07 %) and vol. 54, 55, 57, 58 and 59 have the lowest number i.e., 6 (15.38 %) contributions. Out of 4 contributions done by more than three authors' volumes 57 has the highest i.e. 2 (50.00%) and vol.55 and 58 has each 1 (25.00%) of lowest authors.

Table. 4. Authorship pattern of single and joint contributions

Years	2007	2008	2009	2010	2011	2012	No of Articles	% of Records
Single	12	12	6	17	14	11	72	35.46
Joint	16	23	28	26	22	16	131	64.54
Total	28	35	34	43	36	27	203	100.00



Graph 2. Authorship pattern of single and joint contributions

The above table - 4 showed that out of 203 articles single author contributed only 72 (35.46 %) articles while the rest 131(64.54 %) articles were contributed by joint authors. It showed that the majority of the articles have been contributed only by multiple authors.

Table 5. Author Productivity

S. No	Year	Total no. of Articles	No. of Authors	AAPP*	Productivity per year
1	2007	28	50	1.78	0.56
2	2008	35	66	1.88	0.53
3	2009	34	71	2.08	0.47
4	2010	43	79	1.837	0.544
5	2011	36	66	1.833	0.545
6	2012	27	49	1.81	0.55
Total		203	381	1.87	0.53

*Average Authors per Paper (AAPP) = Number of authors/ Number of papers.
Productivity per author= Number of papers/ Number of authors.

Table - 5 shows the data related to author productivity, which shows that the total average number of authors per paper is 1.87 and the average productivity per author is 0.53. The highest number of author productivity i.e., 79 (1.837) were published in the year 2010.

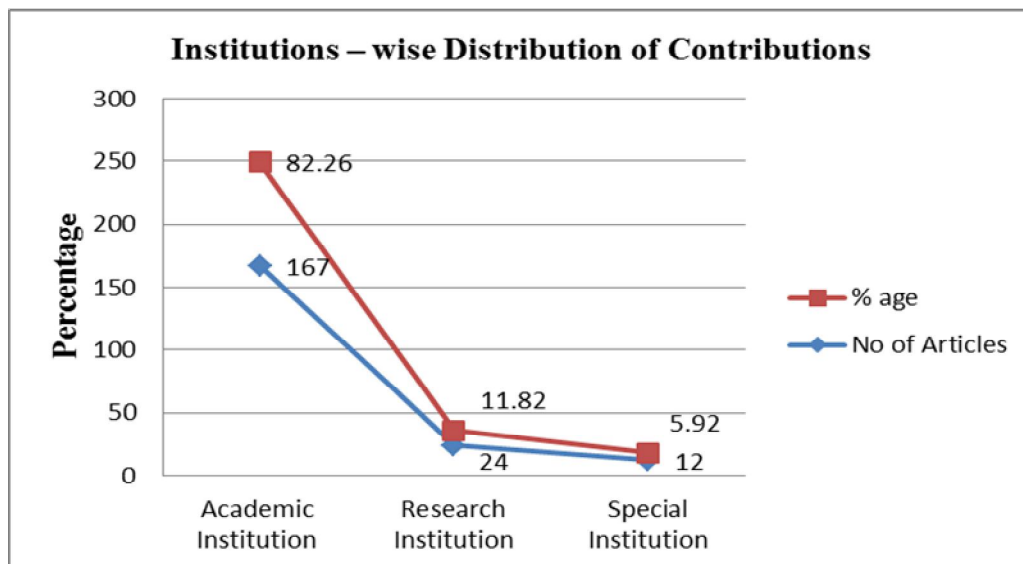
Table 6. Year wise Single and Multi-Authored Papers

Sl. No.	Year	Single Authored		Multi Authored		Total	% of Records
		Papers	%	Papers	%		
1	2007	12	16.66	16	12.21	28	13.79
2	2008	12	16.66	23	17.56	35	17.24
3	2009	6	8.33	28	21.38	34	16.75
4	2010	17	23.62	26	19.85	43	21.18
5	2011	14	19.45	22	16.79	36	17.73
6	2012	11	15.28	16	12.21	27	13.31
Total		72	100.00	131	100.00	203	100.00

The table shows the details about the single and multi-authored papers. A total of 72 contributions (35.46 %) out of 203 have been contributed by single author, 131 contributions (64.54 %) by multiple authors.

Table. 7. Institutions – wise Distribution of Contributions

Institutions	No of Articles	% age
Academic Institution	167	82.26
Research Institution	24	11.82
Special Institution	12	5.92
Total	203	100.00



Graph. 3. Institutions – wise Distribution of Contributions

Table 7 shows the type of institutions with which the authors of the articles were affiliated. Out of 203 contributions, the highest number of i.e. 167 articles (82.26 %) were from authors affiliated with Academic Institutes whereas the lowest number i.e. 12 (5.92%) has been contributed by Special Institution.

Table 8. Degree of Collaboration

S.No	Year	Single Authored Paper (N _s)	Multi Authored Papers (N _m)	Total (N _m + N _s)	Degree of Collaboration
1	2007	12	16	28	0.57
2	2008	12	23	35	0.65
3	2009	6	28	34	0.82
4	2010	17	26	43	0.60
5	2011	14	22	36	0.61
6	2012	11	16	27	0.59
Total		72	131	203	0.64

The table shows the details about the degree of collaboration. Degree of collaboration is a prominent area of research in bibliometric studies which indicate trends in single and joint authorship during 2002 to 2012, as shown in Table - 6. The degree of collaboration ranges from 0.57 to 0.82 and the average degree of collaboration is 0.64. The degree of collaboration is calculated by using the following formula (K. Subramanyam, 1982):

The formula is Where

C = Degree of Collaboration
N_m = Number of multiple authors
N_s = Number of single authors

$$C = \frac{N_m}{N_m + N_s}$$

$$C = \frac{131}{131 + 72 = 203}$$

In the present study the value of C is **C = 0.64**

As a result, it was found that the degree of collaboration in the Annals of Library and Information Studies is 0.64, which openly indicates its dominance upon multiple contributions.

CONCLUSION

An Annals of Library and Information Studies is an Indian Journal is the highly preferred peer reviewed journal for communication by the library and information science professionals. It is found that the highest number of contributions i.e., 43 (21.19 %) were published in the year 2010. The minimum number of 27 (13.31 %) was published in the year 2012. A total of 72 contributions (35.46 %) out of 203 have been contributed by single author, 131 contributions

(64.54 %) by multiple authors. Out of 203 contributions, the highest number of i.e. 167 articles (82.26 %) were from authors affiliated with Academic Institutes whereas the lowest number i.e. 12 (5.92%) has been contributed by Special Institution. The degree of collaboration ranges from 0.57 to 0.82 and the average degree of collaboration is 0.64 during the period of study.

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