



AUTHORSHIP PATTERNS AND COLLABORATIVE RESEARCH TRENDS IN THE FIELD OF LIBRARY & INFORMATION SCIENCE



Shivcharan¹ and Sandeep Kumar²

¹Research Scholar , Department of Library & Information Science,
Kurukshetra University Kurukshetra.

²Research Scholar , Department of Library & Information Science,
Kurukshetra University Kurukshetra.

ABSTRACT

Authorship trends and collaborative research are studied in the field of Library & Information Science based on the data collected from Emerald database Library Hi – Tech e-Journal published during the 2005-2015. Outcome of the study shows that multi authored articles 54.22% prevail the single authored articles 45.78%. The degree of collaboration in the field of LIS is 0.54. Average number of authors per paper varies from 1.53-2.82. This study is in support for the fact that Library & Information Science research is collaborative in all aspects.

KEYWORDS : *Authorship Pattern, Collaborative Research, Library & Information Science, Publication Trends.*



INTRODUCTION:-

Authorship pattern and productivity are the important parameters in order to study citation analysis. Generally authorship of the article or document as become important for scientists and researchers in order to make out the author productivity and authorship pattern, the analysis of nature of research collaboration in research activity is prime factor. Pricehas used the distribution of the number of collaborators per paper to study the

collaboration in an invisible college. It is presumed that there is a strong relationship between the number of papers and the average number of authors per paper. Authorship studies also descriptive bibliometric studies focused on authorship patterns. They describe author characteristics and authorship of articles and degree of collaboration of a specific group of authors.

In the present paper, collaboration research trends in the field of Library & Information Science as reflected through the emerald database Library Hi – Tech e-journal are studied in period of 2005-2015. Our main focuses in present communication is 'To study trends in field of Library sciences, single versus multi authored articles, measure the degree of collaboration in the area of LISresearch. This journal is international in scope and defines technology in the broadest possible terms to include the full range of tools employed by librarians and their customers. The journal is peer-reviewed, and cited in both ISI and Scopus.

LITERATURE REVIEW:

Zafrunnisha (2012) studied 22,565 citations appended in 141 Ph.D. theses available in psychology at three university libraries of Andhra Pradesh, India. The study revealed that journals got the first rank in the cited sources by the researchers; however, they preferred the foreign journals than the Indian journals. 'Journal of Applied Psychology' secured the first rank. Collaborative authorship was high compared to single authorship. Maximum literature of psychology was published in English language.

Farideh and Farideh (2012) analyzed 13493 citations from 142 theses of graduate medical faculty of Ahvaz JundiShapur University during 1999-2011. 12831 (95/1%) citations were from foreign references and 662 (4/9%) were from Persian references. Citations dates showed that the major citations were related to year 1996 and after that.

Klassen (2011) analyzed 6,291 references of 135 master's theses of Public Health Department at Southern Connecticut State University from 1995 to 2007. 65.4% of total citations were from journal articles and total 1,047 journals were cited. Two journals were cited more than 100 times namely 'Journal of the American Medical Association' and 'American Journal of Public Health'.

Objectives of the Study

- + To study research article contributions by year and issue
- + To study authorship pattern in LIS research
- + To study single vs multi authored papers
- + To study degree of collaboration in the field of Library & Information Science

RESEARCH METHODOLOGY

The data was collected from the Emerald database Library Hi – Tech e-journal of Library & Information Science website (<http://www.emeraldinsight.com/loi/lht>) covering the period from 2005 to 2015. Five hundred and nine articles and related information's about by year, number of authorship, author's productivity, single and multi-authored by year, degree of collaboration were noted down for the study have been selected for the current study. The journal publishes original research articles in the field of library and information science (LIS), as well as related domains that encapsulate information and knowledge. All articles are source article published in the last eleven years (2005 – 2015) were recorded in a separate white sheet and results were entered in Microsoft Excel. These data were organized, calculated, tabulated, analyzed and presented by using simple arithmetic and statistical methods in order to provide analysis.

DATA ANALYSIS AND FINDINGS

Table 1: Contribution of Research Articles' By Year and Issue

Year	Issue No.	No. of Research Articles'	Percentage (%)
2005	4	49	9.62
2006	4	51	10.01
2007	4	49	9.62
2008	4	52	10.21
2009	4	48	9.43
2010	4	47	9.23
2011	4	53	10.41
2012	4	48	9.43
2013	4	47	9.23
2014	4	46	9.03
2015	2	19	3.73
Total	42	509	100.00

Table 1 shows that number of contributions (i.e. research articles) and the number of issues published by year. There have been 509 articles contributed by 937 authors were identified in last eleven years. The highest number of research articles 53 (10.41%) were published in 2011 from different countries. The smallest amount of research articles 19 (43.73%) were two issues published in 2015 during the study.

Table 2: Year wise Distribution of Research Papers

Year	Papers/One Authors	Papers/Two Authors	Papers/Three Authors	Papers/More than Three Authors	Total Papers
2005	23	15	5	6	49
2006	26	18	5	2	51
2007	31	13	2	3	49
2008	31	15	2	4	52
2009	22	10	13	3	48
2010	18	23	6	0	47
2011	24	21	7	1	53
2012	26	16	5	1	48
2013	15	18	8	6	47
2014	11	18	10	7	46
2015	6	4	4	5	19
Total	233 (45.78%)	171 (33.59%)	67 (13.16%)	38(7.46%)	509

The details of the no. of papers during 2005 –2015 are tabulated in table 2. It is found that the highest no. of papers published in the year 2011 which is (53, 10.41%) of the total papers. The lowest no. of papers published 2015 which is (19, 3.73%) of the total papers.

Table 3: Productivity Pattern

No. of Authors per Paper	No. of Papers'	Percentage (%)
01	233	45.78
02	171	33.59
03	67	13.21
More than 3	38	7.46

Table 3 shows that productivity pattern of authors, here the percentage of single authorship can be compared to the percentage of multiple authorship. There are 233 authors prefer to work as single author get 45.78% which is highest percentage of total work. Two author make up 33.59% with 171 papers and three authors constitute 13.21% with 67 papers. Only 38 papers contributed by the more than three authors get 7.46% which is lowest percentage of total work. This clearly shows that domination of single authorship pattern over multiple authorship pattern. The study of publication

trends and authorship pattern is being a relevant area of knowledge generation for library professionals.

Table 4: Single Authorship Vs Multiple Authorship

Year	Single Author		Multi Authors		Total Papers
	No. of Papers	(%)	No. of Papers	(%)	
2005	23	46.94	26	53.06	49
2006	26	50.98	25	49.02	51
2007	31	63.26	18	36.73	49
2008	31	59.61	21	40.38	52
2009	22	45.83	26	54.17	48
2010	18	38.30	29	61.70	47
2011	24	45.28	29	54.72	53
2012	26	54.17	22	45.83	48
2013	15	31.91	32	68.08	47
2014	11	23.91	35	76.09	46
2015	6	31.58	13	68.42	19
Total	233	45.78	276	54.22	509

Data collected from source journal are presented in table 4, no. of single authored papers denoted by NSA and no. of Multi authored papers denoted by the term NMA. Each year shows that multi authorship predominant over single authorship. NMA and NSA values are calculated for each year and it was found that highest percentage of NMA articles is 76.09% in the year 2014 and lowest percentage is 36.73 in 2007. Over all NSA paper constituted only 45.78% whereas NMA papers constituted 54.22% figure 1 showed comparison of percentage of single authored papers and multi authored papers.

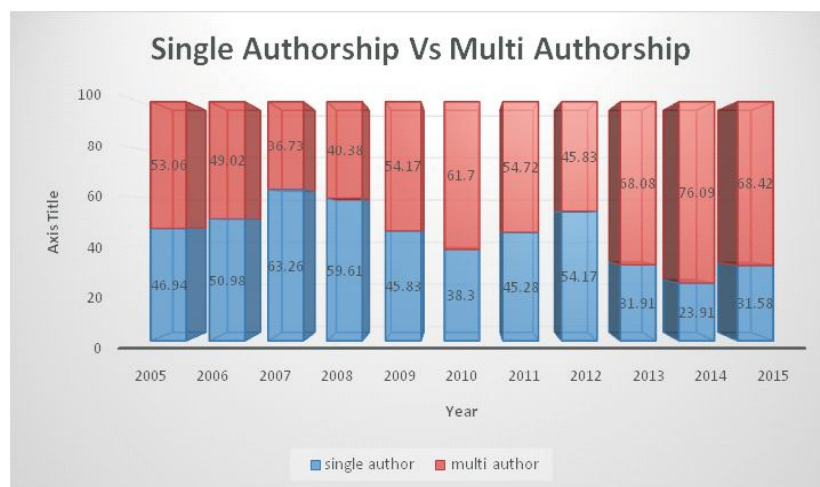


Figure 1: Single Authorship Vs Multiple Authorship

Table 5: Degree of Collaboration LIS Researchers

Year	NSA	NMA	Degree of Collaboration $C = \text{NMA} / (\text{NMA} + \text{NSA})$
2005	23	26	0.53
2006	26	25	0.49
2007	31	18	0.36
2008	31	21	0.40
2009	22	26	0.54
2010	18	29	0.61
2011	24	29	0.55
2012	26	22	0.46
2013	15	32	0.68
2014	11	35	0.76
2015	6	13	0.68
Total	233	276	0.54

The degree of collaboration can be calculated by the formula given below:

Degree of Collaboration (C) = No. of Multiple Authors (NMA) / {No. of Multiple Authors (NMA) + No. of Single Authors (NSA)}

By using this formula the degree of collaboration in the area of LIS has been calculated and provided in table 5. The degree of collaboration was calculated for 11 years. It showed that the degree of collaboration is 0.53 in 2005 and more or less this value is maintained throughout the period taken. In 2006 and 2008 it is seen that it is decreasing to 0.53 but in 2009 to 2011 it increases. In 2012 it is seen that it is decreasing to 0.46 and rest of the year it increases. It also showed trend towards multi authorship. Average degree of collaboration which is 0.54 shows researchers preferred team work in research. The result revealed that the degree of collaboration in LIS is more than that of other sciences. Figure 2, represents the degree of collaboration during 2005- 2015.

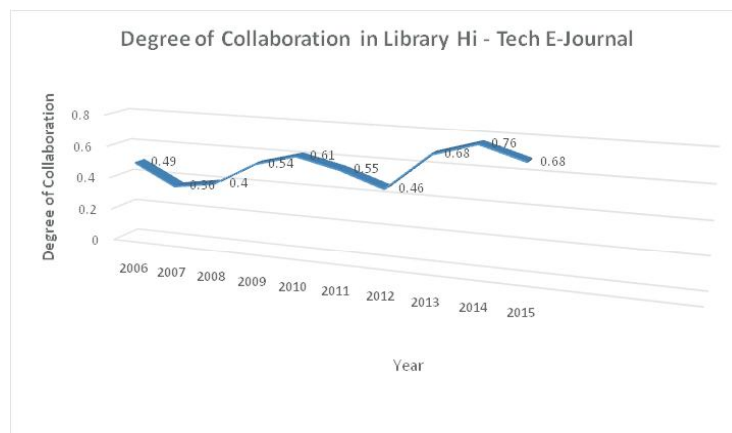
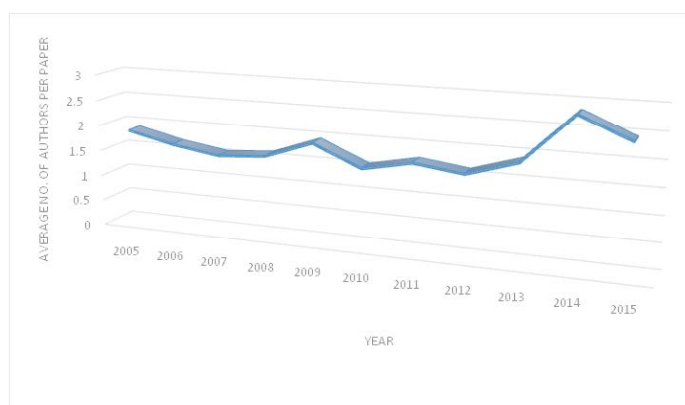
**Fig. 2: Degree of Collaboration in LIS Journal 'Library Hi – Tech'**

Table 6: Average No. of Authors per Paper in LIS Journal 'Library Hi – Tech'

Year	Total No of Papers (p)	Total No of Authors (a)	Average No. of Authors per Paper AAP = A/P
2005	49	92	1.88
2006	51	85	1.67
2007	49	75	1.53
2008	52	83	1.60
2009	48	93	1.93
2010	47	72	1.53
2011	53	91	1.72
2012	48	77	1.60
2013	47	89	1.89
2014	46	105	2.82
2015	19	46	2.42

Average no. of Papers was calculated in table 6 and it is seen that the average no. of authors per article varies from 1.88 in 2005 to 2.42 in 2015. Highest average authorship is observed in 2014 i.e. 2.82 whereas lowest average authorship in 2007 and 2010 which is 1.53. In 11 years from 2005 to 2015 the average no. of authors per paper is found to be more than 1 or less than 3. Figure 3 showed the graphical representation of average no. of authors per articles.

**Fig. 3 Average No. of Authors per Paper**

CONCLUSION

The trends towards collaborative research is seen consistent during 2005 – 2015 in the field of Library & Information Science. Observations clearly show that authorship pattern is going to be bent towards multi authorship, degree of collaboration is high and multi authorship is prominent in the field of library & Information Science. Present study supported the fact that collaborative research in various fields of LIS has become more worthy and prefer to work together for an objective like a team.

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Shivcharan

Research Scholar , Department of Library & Information Science, Kurukshetra University Kurukshetra.