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Collaborative Research and Authorship Pattern of Intellectual Property Rights

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Abstract

This paper deals with growth and collaborative research pattern of scientific publications of Journal of Intellectual Property Rights (JIPR) during the selected eight years between 2007 and -2014. The study revealed that the majority of 58 (14.95%) publications were produced by the contributors in the year 2013 and the maximum number of average length of the articles was i.e. 10.10 in the year 2013. The degree of collaboration in this journal is 0.36. Further, the study explored the year wise growth, author productivity, authorship pattern, volume wise and issue wise authorship, and the single and multi-authored papers and average citations, page distribution, rank wise geographical distribution of publications etc.

Keywords: Bibliometrics, Author Productivity, DC, Publication Analysis, Indian Journal, JIPR, NISCAIR, India.

1. INTRODUCTION

Single journal of bibliometric and Scientometric studies are more important in the field of Library and Information Studies. As such a huge number of studies on the discipline have been carried out in India and International level. Journal of Intellectual Property Rights (JIPR) is one of the leading and foremost research journals in the field of intellectual property. JIPR is published bimonthly by the well-regarded National Institute of Science Communication and Information Resources (NISCAIR), New Delhi, India. As it is stated in its editorial objectives, it mainly intends to enhance the communication between policy makers, organizational agents, academics, and managers on the critical understanding and research on intellectual property. Journal of Intellectual Property Rights is indexed by Social Sciences Citation Index, Social SciSearch, and Journal Citation Reports (Social Sciences Edition).

The journal publishes contributed / invited articles, case studies and patent reviews; technical notes on current IPR issues; literature review; world literature on IPR; National and International IPR news, book reviews, and conference reports. Therefore, a bibliometric study of this journal is of vital significance. The present study aims to discover the bibliometric analysis of the research work on Journal of Intellectual Property Rights (JIPR) selected eight years for a period between 2007 and December 2014.

2. PREVIOUS STUDIES

There are some earlier studies have been reviewed related to the objectives of the present study and presented in this study. Karisiddappa et.al (1990) have been studied the authorship trends and collaborative research work based on the data retrieved from psychological abstracts. Bandyopadhyay (2001) examined the authorship pattern in different disciplines. Farahat (2002) analyzed the study of Authorship patterns and research in agriculture sciences in Egypt. Vimala and Pulla Reddy (2009) examined the authorship pattern and collaborative research in the field of Zoology. Zafrunnisha and Pulla Reddy (2009) analyzed the study of authorship pattern and degree of collaboration in Psychology. Elango and Rajendran (2012) have investigated the authorship trends and collaboration pattern in the marine sciences literature. Erfanmanesh, Rohani and Abrizah (2012) have studied the co- authorship network of scientometrics research collaboration. Barik and Jena (2013) explored the analysis of authorship studies of trends in Information Management during the period between 2008 and 2012. Goyal, Gupta and Kumar (2013) have been observed the authorship patterns and collaborative research trends in the field of chemical sciences.

Thavamani and Velmurugan (2013) observed the authorship pattern and collaborative research work in *Annals of Library and Information Studies*. Velmurugan (2013) studied the research output with special reference to authorship pattern and collaborative research work of the *Journal of Intellectual Property Rights (JIPR)* During 2007- 2012, Velmurugan (2013) analyzed bibliometric analysis with special reference to authorship pattern and collaborative research output of *Annals of Library and Information Studies*

for the year 2007 – 2012. Velmurugan (2014) examined the research trends and authorship pattern in Indian Journal of Pure and Applied Physics (IJAP) during the period for the year 2009 and 2012, Velmurugan and Radhakrishnan (2014) have been investigated the publication research trends on Technical Review Journal during the year 2012.

3. OBJECTIVES

The objectives of the present study are to evaluate the following purposes:

- To observe the authorship pattern and author's productivity during the period
- To discover the year wise contributions of articles and the Length of articles
- To study the period and volume wise authorship pattern
- To examine the single and multi-authored papers of the journal and
- To find out the Degree of collaboration
- To trace the number of references in the articles
- To determine the global wise as well as State -wise distribution
- To know about the articles published in JIPR between 2007 and 2014

4. METHODOLOGY

Three eighty eight papers under 48 issues of eight volumes have been selected from 2007 to 2014 for the study. The present study includes year wise distribution of articles, authorship pattern, volume wise authorship, author's productivity and the single and multi-authored papers were noted down in this study. The collected data were organized, calculated, tabulated, analyzed and presented by using MS-Excel for its results. The authorship pattern has been analyzed by using K. Subramanyam's degree of collaboration in quantitative terms. This present study is limited to Journal of Intellectual Property Rights (JIPR) selected six years only.

5. ANALYSIS

5.1 Authorship pattern

Researchers identified the authorship pattern of articles distributed by the contributors. Figure 1 shows that out of total of 388 journal articles, the highest number of contributions i.e. 248 (63.92 %) have been contributed by Single author and followed by 96 contributions (24.75 %) of articles have been contributed by two authors and 28 contributions (7.21 %) by three authors and the lowest number of contributions i.e. 16 (4.12 %) by more than three authors.

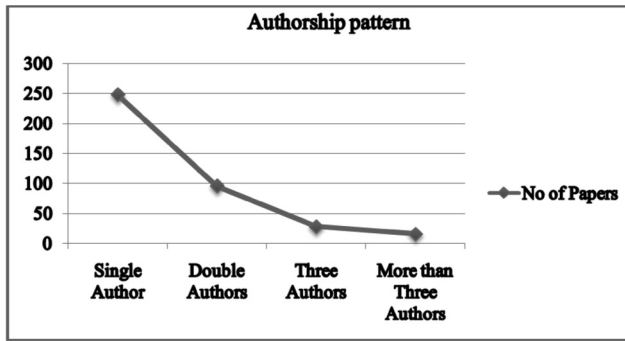


Figure 1: Authorship pattern of publications

5.2 Author productivity

Table 1 presents the details about the year wise authorship patterns during the period of study. The highest number 248 (63.92%) of journal papers have single author and followed by 96 contributions i.e. 24.75 % have two authors; 7.21 % of contributions have three authors and the minimum number of 16 (4.12%) contributions have more than three authors.

Authors	Year								No of Papers	Percentage
	2007	2008	2009	2010	2011	2012	2013	2014		
Single Author	30	38	29	28	28	33	33	29	248	63.92
Two Authors	12	11	6	8	15	18	17	9	96	24.75
Three Authors	2	0	4	1	6	4	4	7	28	7.21
More than three	0	3	2	0	4	1	4	2	16	4.12
Total	44	52	41	37	53	56	58	47	388	100

Table 1: Year - wise Author productivity

5.3 Ratio of single and multi-authored papers

It is evident from Table 1 that the percentage of singly authored articles is more 248 (63.92%). It is revealed that the predominance of solo research which has been increased from 15.32% in 2008 and unfortunately it has been reduced 11.69 % in the year 2014. Anyhow solo research has been fluctuated even though augmented compare with multi –authored papers. Normally, the ratio of single and multi-authored papers lies between 2:1 and 3:2, but it has been surprisingly increased to 4:2 in 2008 (Table 2).

Year	No of Articles	Single Author (SA)		Multi - Authors (MA)		SA:MA
		No of Articles	%	No of Articles	%	
2007	44	30	12.10	14	10.0	3:2
2008	52	38	15.32	14	10.0	4:2
2009	41	29	11.69	12	8.57	2:1
2010	37	28	11.29	09	6.43	3:1
2011	53	28	11.29	25	17.86	2:2
2012	56	33	13.31	23	16.42	3:2
2013	58	33	13.31	25	17.86	3:2
2014	47	29	11.69	18	12.86	3:2
Total	388	248	100.0	140	100.0	2:1

Table 2: Ratio of single and multi-authored papers

5.4 Single and Co- Authorship Pattern

Pattern	2007	2008	2009	2010	2011	2012	2013	2014	No of Articles	% of Records
Single	30	38	29	28	28	33	33	39	248	63.92
Co- Authorship	14	14	12	9	25	23	25	18	140	36.08
Total	44	52	41	37	53	56	58	47	388	100

Table 3: Authorship pattern of single and joint contributions

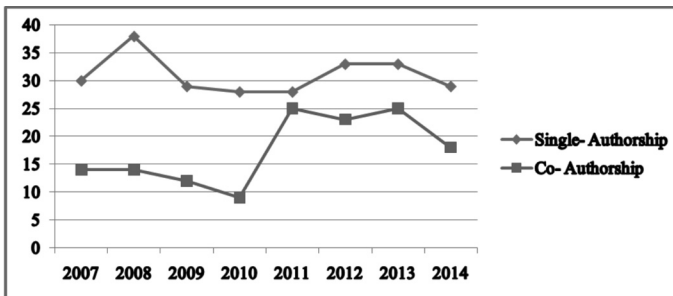


Figure 2: Single vs. Co-Authorship Contributions

Table 3 Figure 2 represents that out of 388 articles, the maximum number of publications were published by means of single author 248 (63.92%) while the rest 140 (36.08 %) papers were contributed by means of co- authorship authors. It is found that the majority of the articles have been contributed only by solo authors.

5.5 Degree of Collaboration

As stated by the application of bibliometric indicators, the degree of collaboration in this journal ranges from 0.24 to 0.47 and the average degree of collaboration is 0.36 (Table 4). The degree of collaboration is calculated by using the following formula (K. Subramanyam, 1982).

Year	Volume	No of Authors		Total	Degree of Collaboration
		Single	Multiple		
2007	12	30	14	44	0.31
2008	13	38	14	52	0.26
2009	14	29	12	41	0.29
2010	15	28	09	37	0.24
2011	16	28	25	53	0.47
2012	17	33	23	56	0.41
2013	18	33	25	58	0.43
2014	19	29	18	47	0.38
	Total	248	140	388	0.36
Percentage %		63.91	36.09	100.0	

Table 4: Degree of Collaboration

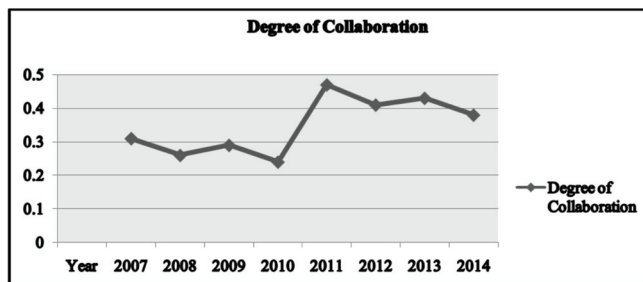


Figure 3: Degree of Collaboration

The formula is Where

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

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

$$C = \frac{248}{248 + 140} = 0.36$$

In the present study the value of C is

$$C = 0.36$$

Therefore, it was found that the degree of collaboration in Journal of Intellectual Property Rights (JIPR) is 0.36.

5.6 Institution wise distribution

Figure 4 acknowledged the institution wise distribution of contributions such as University, College, Research and Documentation and other Institutions. The analysis of the results shows from the table that out of 592 institutions, the highest number of 250 (42.23%) were contributed by University and followed by 208 (35.14%) were by Research and Documentation centers, 130 (17.39%) were by other institutions and rest of 31 (5.24%) were contributed by College only.

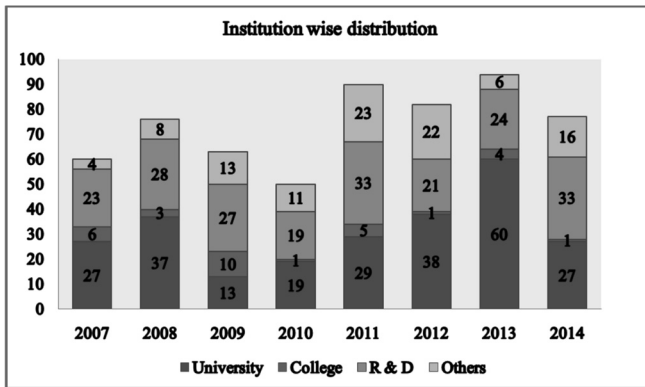


Figure 4: Contributors (Institution- wise)

5.7 Year - wise distribution of citations

Year	2007	2008	2009	2010	2011	2012	2013	2014	Total	Average
References	1823	1410	1016	973	1281	1654	2056	1483	11696	1462.0
Percentage	15.58	12.05	8.68	8.31	10.96	14.16	17.58	12.68	100	

Table 5: Year - wise distribution of citations

Table 5 represents that the year wise numbers of references that authors cited in their articles. There were 388 research articles with total 11696 references during the period between 2007 and 2014, and the average number of references cited per article was 12.5. Averagely there were 11, 696 references cited per year, and the total number almost increased yearly and shows that the distribution of citations by volumes indicates that the highest number of citations 2056 (17.58 %) was in the year 2013.

5.8 Global wise distribution

Rank	Country	No of Contributions	Percentage
1	India	376	63.52
2	Foreign countries	216	36.48
Total		592	100.0

Table 6: Geographical area wise distribution

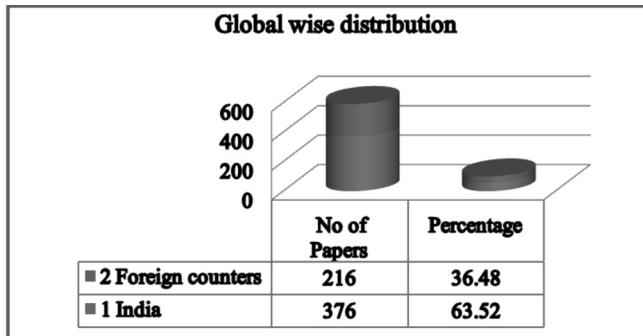


Figure 5: Global wise distribution

Table 6 Figure 5 represents that geographical area wise distribution of contributions and the majority of 376 (63.51%) scientific publications contributed by Indian authors and the remaining 216 (36.49%) publications were produced by foreign countries. It is observed from the study that the Indian authors are interested to contribute more number of publications compared with foreign authors.

5.9 Page wise distribution

Table 7 depicts the details about the distribution of pages in volume wise and number of pages in each issue during the period from January 2007 to December 2014.

Month	Year / Volume							
	2007/12	2008/13	2009/14	2010/15	2011/16	2012/17	2013/18	2014/19
January	170 (15-184)	63 (7-69)	63 (7-69)	70 (7-76)	31 (7-37)	75 (7-81)	85(7-92)	72(1-72)
March	58 (199-256)	54 (111-164)	55 (113-167)	37 (117-153)	141 (69-209)	62 (103-164)	97(99-196)	90(73-162)
May	61 (293-353)	56 (197-252)	57 (203-259)	51 (187-237)	53 (217-269)	66 (185-250)	101(197-298)	76(163-238)
July	43 (391-433)	61 (293-353)	50 (299-348)	40 (273-312)	51 (303-353)	75 (273-347)	95(299-394)	64(239-302)

Month	Year / Volume							
	2007/12	2008/13	2009/14	2010/15	2011/16	2012/17	2013/18	2014/19
September	45 (471-515)	153(395-547)	63 (385-447)	38 (345-382)	54 (377-430)	132 (369-500)	109(395-504)	62(303-364)
November	45 (553-597)	59 (563-621)	55 (489-543)	62 (415-476)	69 (453-521)	67 (511-577)	99(505-604)	74(365-438)
Total	422	446	343	298	399	477	586	438
%age	12.37	13.08	10.07	8.75	11.71	13.99	17.19	12.84

Table 7: Page wise distribution

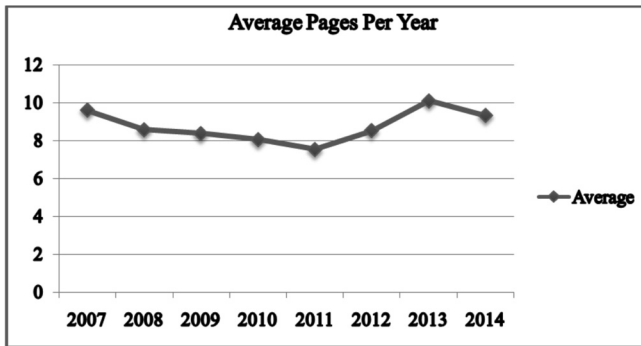
5.10 Average pages per papers per volumes per contribution

Table 8 reveals the average papers per volumes per contribution. It shows that Average pages per volumes = $3409/8 = 426.125$ and Average pages per issues = $3409/48 = 71.03$ and Average pages per contribution = $3409/388 = 8.786$.

Year	Vol. No.	Total pages	No of contributions	Average
2007	12	422	44	9.59
2008	13	446	52	8.57
2009	14	343	41	8.36
2010	15	298	37	8.05
2011	16	399	53	7.53
2012	17	477	56	8.51
2013	18	586	58	10.10
2014	19	438	47	9.31
Total		3409	388	100

Table 8: Average Pages Per Volume

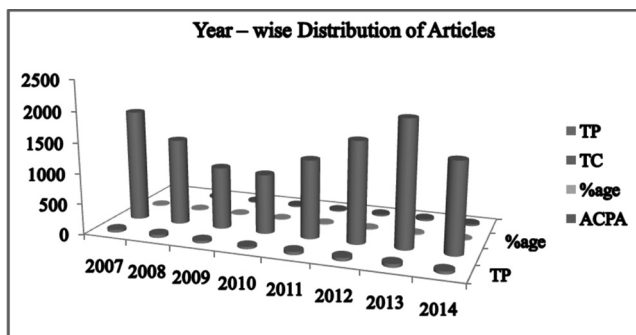
Table 8 Figure 6 point out that 388 journal articles published with a total page of 3409 (average 8.786 pages per article) during the year 2007 -2014. It is observed that the average length of the articles varied from a minimum of 7.53 pages in the year 2011 to a maximum of 10.10 pages in the year 2013. But, it has been reduced unexpectedly i.e. 9.31 in the year 2014.



5.11 Year Wise Distribution of articles (Table 9)

Year	Vol	TP	TC	%age	ACPA
2007	12	44	1823	11.34	41.44
2008	13	52	1410	13.40	27.12
2009	14	41	1016	10.56	24.78
2010	15	37	973	9.54	26.30
2011	16	53	1281	13.65	24.17
2012	17	56	1654	14.44	29.54
2013	18	58	2056	14.95	35.45
2014	19	47	1483	12.12	31.56
Total		388	11696	100.0	30.15

Note: TP- Total Publications, TC- Total Citations, ACPA- Average Citations Per Article



Note: TP- Total Publications, TC- Total Citations, ACPA- Average Citations Per Article.

Figure 7: Year – wise Distribution of Articles

Table 9 Figure 7 shows the year wise distribution of research output. It is found that the majority of 58 (14.95%) publications were produced by the contributors in the year 2013 whereas the lowest number of 37 (9.54%) were published in the year 2010 the journal citations were 11, 696 and the average 30.15 citations per paper. Researchers identified that the number of papers published for every year has observed constantly an up –and-down trend for the period of time.

CONCLUSION

The findings of this paper revealed that the majority of research output was produced by the contributors in the year 2013 whereas the lowest number of papers was published in the year 2010. Out of 592 institutions, the highest number of research output were contributed by University and followed by Research and Documentation centers, other institutions and the remaining were contributed by College only. The degree of collaboration in this journal ranges from 0.24 to 0.47 and the average degree of collaboration is 0.36. The majority of scientific publications contributed by Indian authors and the remaining were produced by foreign countries. The maximum number of average length of the articles was i.e. 10.10 in the year 2013 and the minimum number of average length of papers i.e. 7.53 in the year 2011. Journal of Intellectual property Rights has successfully completed 15 years of publication. It has got world-wide recognition and is steadily growing to be a very promising journal in the area of property rights by attracting scholarly articles from around the world. Therefore, the authorship research trend in the field of Journal of Intellectual Property Rights (JIPR) is collaborative in nature like any other discipline.

REFERENCE

1. Bandyopadhyay, Amit Kumar (2001). “Authorship pattern in different disciplines”. *Annals of Library and Information Studies*, 48(4), 139-147.
2. Barik, Nilaranjan and Jena, Puspanjali, 2013. Authorship studies of Trends in Information Management, 2008-2012, *International Journal of Library and Information Studies*, 3 (4), 75-83.
3. Elango, B and Rajendran, P. (2012). Authorship trends and collaboration pattern in the marine sciences literature: a scientometric study. *International Journal of Information Dissemination and Technology*, 2 (3), 166-169.
4. Erfanmanesh, M; Rohani V.A and Abrizah, A (2012). Co-authorship network of scientometrics research collaboration, *Malaysian Journal of Library and Information Science*, 17 (3), pp73-93.
5. Goyal, V., Gupta, G.K. & Kumar, A. (2013). Authorship patterns and collaborative research trends in the field of chemical sciences. *International Journal of Information Dissemination and Technology*, 3(3), 184-186.

6. Hashem Farahat. (2002). Authorship patterns in agriculture sciences in Egypt. *Scientometrics*, 55(2), 157-170.
7. Karisiddappa, C.R.; Maheswarappa, B.S.; & Shirol, M.V (1990). Authorship Pattern and Collaborative Research in Psychology. *IASLIC Bulletin*, 35(2), 73-78.
8. Subramanyam, K. (1982). Bibliometric study of research collaboration: A review. *Journal of Information Science*, 6, 33-38.
9. Thavamani, K.; & Velmurugan, C (2013). Authorship Pattern and Collaborative Research work in Annals of Library and Information Studies, Proceedings of the *National Conference on Next Generation Library Services, SALIS 2013 – NGLIS* August 16-17, 2013, Chennai.
10. Velmurugan, Chandran. (2013). Research Output with Special Reference to Authorship Pattern and Collaborative Research Work of the Journal of Intellectual Property Rights (JIPR) During 2007- 2012, *Journal of Information Technology and Library Science*, 2 (1), pp 1-8 (ISSN 2347 – 9760) (Print)
11. Velmurugan, Chandran. (2013). Bibliometric analysis with special reference to Authorship Pattern and Collaborative Research Output of Annals of Library and Information Studies for the Year 2007 – 2012. *International Journal of Digital Library Services*, Vol.3 (3), 13-21, 2013.
12. Velmurugan, Chandran. (2014). Research Trends in Indian Journal of Pure and Applied Physics (IJPAP) for the Year 2009 – 2012, *Asian Review of Social Sciences*, 3 (1), pp. 24-28.
13. Velmurugan, C and Radhakrishnan, N. Dr. (2014). Publication Research Trends on Technical Review Journal: A Scientometric Study, *International Journal of Digital Library Services (IJDLS)*, 4 (3), pp 45-55.
14. Vimala, V.; & Pulla Reddy, V (2009). Authorship Pattern and Collaborative Research in the Field of Zoology. *Malaysian Journal of Library & Information Science*, 1(2), 43-50.
15. Zafrunnisha, N.; & Pulla Reddy, V (2009). Authorship Pattern and Degree of Collaboration in Psychology. *Annals of Library and Information Studies*, 17(1), 255-261.

