

Bibliometric analysis of Resonance- Journal of Science Education: 2011-2014

Pradnya A. Bhagat¹, Dr. Dhananjay Wamanrao Deote², Arvind A. Bhagat³

¹Librarian, Bhawabhuti Mahavidyalaya, Amgaon, Distt-Gondia

²Librarian, Bar. Sheshrao Wankhede Mahavidyalaya, Mohpa, Distt-Nagpur

³Librarian, M. B. Patel Arts & Commerce College, Salekasa, Distt-Gondia

Abstract:- This research paper presents a bibliometric analysis of resonance - journal of science education for the period 2011-2014 i.e the authorship pattern & degree of collaboration. This study mainly covered, to study the analysis of article published in resonance journal of science education, to identify no of contribution published during the period of the study, to determine the year wise distribution of research papers. to study authorship patterns of according to year / volume, to know author productivity, author's productivity. The study concluded that of 364 articles. The single author contributed 284 of articles and followed by 180 articles contributed by multiple authors.

Keywords:- Authorship Pattern, Productivity, Scientometrics, Bibliometrics, Collaboration.

I. INTRODUCTION

In the ocean of scientific knowledge the terms bibliometrics and & scientometrics are synonymously used to measure researcher's scientific publications and citations. Scientometric is tools which count the published literature by analyzing the published literature. Affiliation among different branches of knowledge, author's productivity, authorship pattern, degree of collaboration pattern of collection building & their uses. Scientometrics is a study of quantitative science as a discipline or economic activity. in Scientometric study involves quantitative studies of scientific activities, as well as publications, and so overlaps bibliometrics to some extent. Scientometrics and Webometrics Hood and Wilson 20013 are used to investigate an increasing range of topics, including: the frequency distributions that characterize the use of words and phrases in text databases; the extent to which websites are linked together; longitudinal studies of the development of academic disciplines; and the extent to which individuals, research groups or institutions are published or cited in the literature.

Resonance Journal of Science Education⁵ is journal of science education, published monthly by the Indian Academy of Sciences, Bangalore from year 1939. The journal has evolved over the year as a major forum for publication of scholarly work on ideas and issues.

Important to the study articles on science & engineering. In this journal quality papers are invited from faculty members, social scientists, scholars & academicians. Each issue of journal highlights the contributions of a scientist, engineer or mathematician, with a description on the back cover and articles describing life and research contributions. The study is based on 364 contributions related to 48 issues & 4 volumes.

II. REVIEW OF LITERATURE

Yadav, Sunil Kumar; Singh, S N.; and Verma, Manoj Kumar (2019)⁹ have focused authorship and collaboration pattern in SRELS Journal of Information management during 2008-2017. This study show that the two author collaboration are plurality in number than single authored collaboration. in articles. This study show that from that multiple authorship pattern is higher and predominate single authored. This study show journal & trend toward collaboration research.

Ramakrishna, Dr. R. Rama Raj Urs, Prof. V.G. Talawar (2018)⁶ examined the authorship pattern and degree of collaboration research in dental science literature in India: during 1997-2016. This study show total 12737 authors have together contributed 3098 from the period 1997-2016 & highest number of 617 research papers published in the year 2016. This study show that highest no of articles contributed by four authorship, only one article published by highest 26 authors. The bulk number of the publications is contributed by multi authors and predominant on single authorship.

III. OBJECTIVE

- To study the analysis of article published in resonance journal of science education.
- To identify no of contribution published during the period of the study.
- To study authorship patterns of according to year / volume.
- To know author productivity.
- To measure the degree of collaboration.

IV. METHODOLOGY

For the study data is download from the journal website (www.ias.ac.in) then methodology of bibliometric tools are applied for the analysis of the bibliographic features of journal from Jan 2011 to Dec.2014. Next data will tabulated and analyzed with help of MS-EXCEL according to objective of the study. After analysis suitable & logical conclusion will be drawn.

V. DATA ANALYSIS

Table 1 To Study the Analysis of Article Published in Resonance Journal of Science Education,

Sr. No	Year	Volume	No. of Issues	No. of Contribution	%
1	2011	16	12	96	26.57
2	2012	17	12	90	24.65
3	2013	18	12	91	24.93
4	2014	19	12	87	23.83
Total			48	364	100

Table no.1 and graph no.a1 show distribution of articles by year / volume published in resonance journal of science education from 2011-2014 In total there is 365 articles. In 2011 show highest no. of contribution published i.e., 97 (25.57%) & 2014 show the minimum number of 87(23.83%) published .

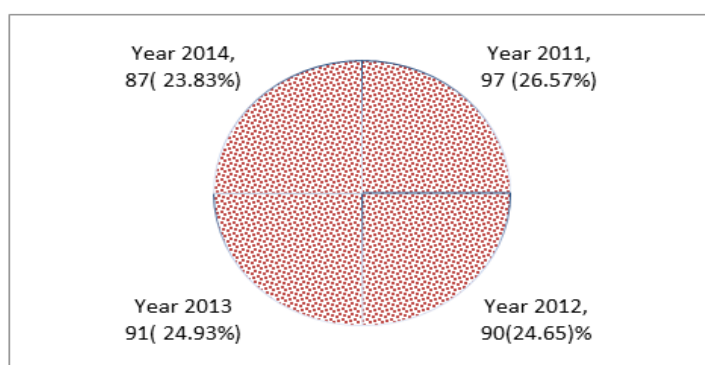


Fig 1 Analysis of Article Published

Table 2 To Study Authorship Patterns of According to Year / Volume.

Sr.no	No. of Authors	No. of Article	No. of Authors	% (no. Articles)	% (no. Authors)
1	Single	284	284	78.02	61.20
2	Two	68	136	18.68	29.31
3	Three	5	15	1.37	3.23
4	Four	6	24	1.64	5.17
5	Five	1	5	0.27	1.07
6	More than five	0	0	0	0
Total		364	464	100	100

According to Table & graph 2 shows that article & authors i.e published during the study period 2011-2014. The authorship patterns shows that 284 (78.02%) singled authors published 284 (61.20%) articles while 136 (29.31%) double authors published 68 (18.68%) articles which are covered more publication during 2011-2014.

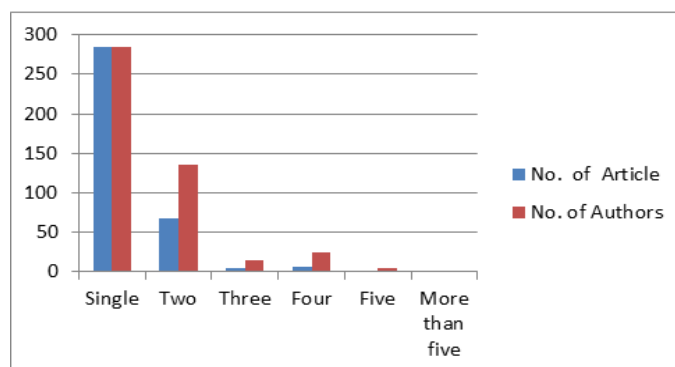


Fig 2 Authorship Patterns

Table 3 To Study Single / Multi-Authored Papers by Year,

Sr. No.	Year	No of author		Total	% of Records
		Single author	Multiple authors		
1	2011	84	29	113	24.35
2	2012	68	54	122	26.18
3	2013	70	43	113	24.24
4	2014	62	54	116	24.89
Total		284	180	464	100

According to Table 3 show study single / multi-authored papers by year of journal from 2016-2019 & also show that no. of authored become greater in 2012 & 2014. Contributions of single authors in year 84(2011) is highest & lowest in 29(2011).

Table 4 To Know Author Productivity

Sr. No.	Year	No. of Article %	No. of Authors %	Average Authors per Paper	Productivity per Authors
1	2011	97(26.57%)	115(31.59%)	1.18	0.84
2	2012	90(24.65%)	122(33.51%)	1.35	0.73
3	2013	91(24.93)	113(31.04%)	1.24	0.80
4	2014	87(23.83%)	116(31.86%)	1.33	0.75
Total		365	464	1.27	0.78 (Mean)

• Note :- **AAPP** = No of authors/ No. of papers. **PPA**= No. of papers/ No. of authors

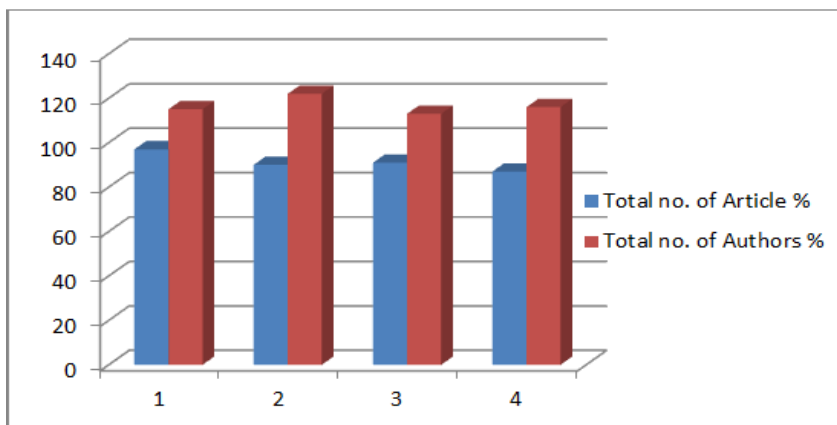


Fig 3 Author Productivity

According to Table & graph 4 shows, the value of the average number of authors per paper & the average productivity per author rep. is 1.27 and is 0.78 .The highest number of author's productivity (122(33.51%) was in 2012 & minimum number of author's productivity (31.04%) was in 2013

➤ Degree of Collaboration:

The degree of collaboration is defined as the ratio of multi-authored papers published during a year and total number of papers published during that year. The formula suggested by K. Subramanya (1983)⁷

Table 5 Degree of Collaboration by Author

Sr. No.	Year	Volume No.	No. of Single Author (Ns)	No. of Multiple authors (Nm)	Total (Nm+Ns)	Degree of Collaboration of author
1	2011	16	84	29	113	0.25
2	2012	17	68	54	122	0.44
3	2013	18	70	43	113	0.38
4	2014	19	62	54	116	0.46
Total			284	180	464	0.39

Formula $DC = Nm/Ns+Nm$, $DC= Nm/Ns+Nm$, $DC=182/284+182$, $DC=0.39$

Table no.5 show, the degree of collaboration in the Resonance Journal of Science Education is 0.39, which clearly indicates its dominance over single authored contributions. The study has calculated the Degree of collaboration by the author over a period of 4 years; the

details are represented in the table number 4. In this work, the degree of collaboration is in between 0.26 (2011) to 0.46 (2014) during the study period, and the average value is 0.39.

VI. CONCLUSIONS

This study resonance journal of science education show the research trend toward collaboration seen during the study period 2011-2014. Total 365 articles published & highest number of contributions is i.e., 97 (25.57%) in 2011 & minimum number of 87(23.83%) published in 2014. It is found that the, maximum articles are with single author's collaboration which is 284 (78.02%). Out of total number of 365 research articles, the Highest number of contributions, i.e., 284 (78.02%) have been contributed by single author authors productivity. The value of degree of collaborations is 0.39.

REFERENCES

- [1]. Bhagat, P .Authorship pattern in the Indian journal of political science: 2016-2019, Research hub international peer reviewed multidisciplinary e journal.vol.2 (2021)pp.35-39.
- [2]. Ikpaahindi, Linus. An Overview of Bibliometrics: its Measurements, Laws and their Applications. *Libri (June)*: 1985, 163 -17
- [3]. Hood & Wilson.The Literature of Bibliometrics, Scientometrics, And Informetrics *Scientometrics, Vol. 52, No. 2 (2001) 291–314*
- [4]. Pritchard, A.Statistical bibliography or bibliometrics. *Journal of Documentation, Vol. 25, 1969, no. 4: 348-349.*
- [5]. <https://www.ias.ac.in/listing/issues/reso/> accessed on dated 22/09/2023.
- [6]. Ramakrishna1, Dr. R. Rama Raj Urs, Prof. V.G. Talawar, Authorship Pattern and Degree of Collaboration Research in Dental Science Literature in India: A Scienteometric Study, *Library Progress (International)*. Vol.38 No.2, Jul- Dec 2018: P.247-254
- [7]. Sangam, S. L. (2015). *Scientometrics: Quantitative methods for library and information science*, Content Craft, Bangalore, pp. 105-111
- [8]. V.Swarnsmugi ,Sethi ,J.Authorship and collaborative patterns in IEEE/ACM Transactions On Networking , *International Educations & Research Journal* , E-ISSN No : 2454-991 volume : 2 Issue : 3 March 2016.
- [9]. Yadav, Sunil Kumar, Singh, S N, and Verma, Manoj Kumar, Authorship and Collaboration Pattern in *SRELS Journal of Information Management during 2008-2017: An Evaluation"* (2019). *Library Philosophy and Practice* , 2019.