Authorship Pattern and Degree of Collaboration in Shodh Samagam Journal

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ORIGINAL ARTICLE

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ABSTRACT

Scientometrics study is an important research tool for understanding the subjects. It aims at measuring the utility of documents and relationship between documents and fields. The present study entitled "Authorship Pattern and Degree of Collaboration in Shodh Samagam Journal" is based on 903 papers published in 20 issues of Shodh Samagam Journal during 2019-2023. The present study tries to find out the literature growth, authorship and collaboration pattern. Concluding results, from the analysis of collected data appended to the total of 903 papers published in Shodh Samagam during 2019- 2023, are presented in a manner to fulfil the objectives of the study. Hindi 475 (52.60 %) is most important language found during the study undertaken. Maximum numbers of papers were published in the year 2021 with 244 (27.02 %) papers and minimum number of papers published in 2019 with 45 (4.98 %) papers. The average productivity per author is 0.69 during the year 2019 - 2023. In the degree of collaboration of all years i.e. from 2019 -2023 is almost same of the mean value as 0.55 whereas the degree of collaboration during the overall five years is 1.21.

KEY WORDS

Authorship Pattern, Author Productivity, Degree of Collaboration.

INTRODUCTION

Scientometrics study is a branch of bibliometrics. It is an important research tool to understand the subject. It aims at measuring the utility of documents

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and relationship between documents and fields. The present study entitled "Authorship Pattern and Degree of Collaboration in Shodh Samagam Journal" is based on 903 papers pubalished in 20 issues of Shodh Samagam Journal during 2019-2023.

Objective of the Study

The objectives of the present study are:

➢ To identify language and year wise distribution of papers.

➢ To examine the authorship pattern & author productivity.

➢ To determine the degree of collaboration.

Review of Literature

Pritchard (1969) described 'the Bibliometrics, as the application of mathematics and statistical methods to books and other media'.

Van Raan (1997) described 'Scientometric research is devoted to quantitative studies of science and technology'.

Diodato (1994) described 'Scientometrics applies the bibliometric techniques to science and examines the development of the sciences.

Stock and Sonja (2006) found that 'main areas of Scientometrics are individual scientific documents, authors, scientific institutions, academic journals and regional aspects of science.

Methodology

The present study tries to find out the literature growth, authorship and collaboration pattern in 903 papers published in 20 issues of Shodh Samagam Journal during 2019-2023.

A datasheet was prepared in MS-Excel to record the data and then the data was entered manually into it from the journal itself. The details, regarding Distribution of papers based on language and year; Authorship pattern based on year; Author productivity and Degree of collaboration, are arranged to fulfill the objectives of the present study. The collected data was analyzed with the following bibliometric indicators.

A   Distribution of papers (Based on language, year)

B   Authorship Pattern (Single vs. Multiple)

C   Degree of Collaboration

Results and Discussion

Analysis and Results

According to the objective of the study, analysis and findings of the study are outlined below.

Language-wise Distribution

Attempts were made to find out language of the papers published on Shodh Samagam Double-Blind, Peer-Reviewed, Referred, Quarterly, Multi Disciplinary and Bilingual International Research Journal, which is presented in Table No.1. The importance of language related to a specific field of knowledge change from time to time. Hindi 475 (52.60 %) is most important language found during the study undertaken. The other language English is found to be 47.40 %. It means that Hindi language dominates the English language for article publication in the journals.

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Table 1: Year wise distribution of paper, based on language

SN	Year	No of Issues	Total paper	Paper written in English		Paper written in Hindi	
				Number	**%**	**Number**	**%**
1	2019	04	45	27	2.99	18	1.99
2	2020	04	172	81	8.97	91	10.08
3	2021	04	244	124	13.73	120	13.29
4	2022	04	227	99	10.96	128	14.17
5	2023	04	215	97	10.74	118	13.07
	Total		**903**	**428**	**47.40**	**475**	**52.60**

*(**Source:** https://shodhsamagam.com)*

Year- wise Distribution of Papers

Table – 2, shows the distribution of research articles published in Shodh Samagam during 2019- 2023. The total 903 papers were published with an average of 180.6 papers per year. Out of 903 papers, the highest number of papers were published in the year 2021 with 244 papers (27.02 papers per year) followed by the 227 papers in 2022; 215 papers in 2023; 172 papers in 2020; and the lowest number of papers were published in the year 2019 with 45 papers (4.98 papers per year). The average number of papers per year is 180.6 during the study period.

Table 2: Year wise distribution of publications

SN	Year	Number of publications	Year wise % of Publication
1	2019	045	04.98
2	2020	172	19.05
3	2021	244	27.02
4	2022	227	25.14
5	2023	215	23.81
	Total	**903**	

*(**Source:** https://shodhsamagam.com)*

Authorship Pattern

It is observed from the Table 3; about 65 % of papers were contributed by single author. Out of 903 papers, the highest number of papers was published by single author and it accounts for 587 with 65 % followed by two authored papers account for 266 with 29.5 %; 3.7 % of papers were published by three authors; 1.3 % of papers were published by four authors; 0.3 % of papers were published by five authors; and only 0.2 % of papers were published by more than five authors. But the trend of the author pattern in the journal shows that the highest number of authors were single followed by two, three, four, five and lowest was more than five.

Table 3: Authorship Pattern

Authors	No of papers	%
Single	587	65.0
Two	266	29.5
Three	33	03.7
Four	12	01.3
Five	3	00.3
>Five	2	00.2
Total	**903**	

*(**Source:** https://shodhsamagam.com)*

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The data pertaining to authorship pattern year wise have been given in the Table No.4. Regarding single authored contributions, the years 2021, 2023, 2020 & 2022 have the highest contributions and the lowest in 2019. Regarding double authored contributions, the year 2022 has the highest contributions with 82. The year 2023 has the highest contributions regarding three authored contribution with 10 and year 2022 was highest authored contributions with four, five & more than five authored contributions with 4, 2 & 1, respectively.

Table 4: Authorship Pattern year wise

Year	Authorship Pattern year wise					
	1 Author	**2 Authors**	**3 Authors**	**4 Authors**	**5 Authors**	**More than 5 Authors**
2019	030	09	4	2	0	0
2020	136	31	3	2	0	0
2021	153	81	8	1	1	0
2022	130	82	8	4	2	1
2023	138	63	10	3	0	1
Total	**587**	**266**	**33**	**12**	**3**	**2**

*(**Source:** https://shodhsamagam.com)*

Author Productivity

The data pertaining to author productivity has been presented in the Table 5. The table shows that the total average number of authors per paper is 1.43 for the 903 papers. The years 2021 & 2023 has the relatively equal average number of authors per paper when compared the total average number of authors per paper.

The average productivity per author is 0.69 during the year 2019 - 2023. The years 2019 & 2023 has the relatively equal productivity per author when compared to the average productivity.

Table 5: Author Productivity

Year	Total no of Papers	Total Numbers of Authors	AAPP	Productivity per Author
2019	045	68	1.51	0.66
2020	172	218	1.27	0.79
2021	244	348	1.43	0.70
2022	227	350	1.54	0.65
2023	215	312	1.45	0.69
Total	**903**	**1296**	**1.43**	**0.69**

*(**Source:** https://shodhsamagam.com)*

Degree of Collaboration

In order to determine the strength of Collaboration (DC), the following formula suggested by Subramanyam K [19], has been employed-

$$DC = \frac{Nm}{Nm + Ns}$$

Where,

DC = Degree of Collaboration

Nm = Number of Multiple Authored Papers

Ns = Number of Single Authored Papers

The Degree of Collaboration of authors year-wise, is presented in the Table 6. The degree of collaboration ranges from 0.60 to 1.69. The average degree of collaboration is 1.21 during the period 2019 – 2023 and it brings out clearly that there exists a higher level of collaboration in the journal.

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Table 6: Degree of Collaboration

Year	Single	Multiple	DC
2019	030	038	1.27
2020	136	082	0.60
2021	153	195	1.27
2022	130	220	1.69
2023	138	174	1.26
Total	**587**	**709**	**1.21**

(*Source:* *https://shodhsamagam.com*)

Year-wise Degree of Collaboration

The Table No. 7 represents the year-wise number of multi-authored papers and their degree of collaboration. In the study, the degree of collaboration of all years is almost same of the mean value as 0.55. Table shows that in the five years of period the multi-authorship papers are higher and predominant than single authorship except for the year of 2020. The single authored papers are also different in all years. The single authored papers 153 (16.94 %) are highest in the year 2021. However, the multi-authored papers 220 (24.36 %) are highest in the year 2022.

Table 7: Year wise degree of collaboration

Year	Total no of Papers	Total Numbers of Authors	No of single author paper	% of papers	No of multi-authored papers	% of papers	Degree of collaboration
2019	045	068	030	03.32	038	04.21	0.56
2020	172	218	136	15.06	082	09.08	0.38
2021	244	348	153	16.94	195	21.59	0.56
2022	227	350	130	14.40	220	24.36	0.63
2023	215	312	138	15.28	174	19.27	0.56
Total	**903**	**1296**	**587**	**65.01**	**709**	**75.82**	**0.55 (Mean)**

(*Source:* *https://shodhsamagam.com*)

CONCLUSION

Concluding results from the analysis of collected data, appended to the total of 903 papers published in Shodh Samagam during 2019- 2023, are presented in a manner to fulfil the objectives of the study. Hindi 475 (52.60 %) is most important language found during the study undertaken. The other language English is found to be 47.40 % in the Year-wise distribution in 903 paper published during 2019- 2023 in Shodh Samagam journal. Maximum numbers of papers were published in the year 2021 with 244 (27.02 %) papers and minimum number of papers published in 2019 with 45 (4.98 %) papers. The average productivity per author is 0.69 during the year 2019 - 2023. In Authorship pattern, of the total number of the 903 papers, 587 (65.0 %) papers are written by single author, 316 (34.99 %) papers are written by multi author. In the degree of collaboration of all years i.e. from 2019 -2023 is almost same of the mean value as 0.55 whereas the degree of collaboration during the overall five years is 1.21.

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