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RESEARCH PUBLICATION OF CURRENT SCIENCE JOURNAL: A SCIENTOMETRIC ANALYSIS

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Abstract
The study analyzes the Current Science journal, focusing on volumes 116 to 125 from 2019 to 2023, analyzing 3693 articles from the Indian Academy of Sciences website. The analysis reveals that volume 125, published in 2023, had the highest number of articles with 444 contributions, while volume 118 (2020) had the lowest with 318 articles, likely due to the COVID-19 pandemic. The study also reveals that article publication trends were not uniformly increasing or decreasing, but rather fluctuated throughout the period. This analysis highlights the dynamic nature of scientific publishing in Current Science.
Keywords: *Current Science Journal, Scientometric, Priority Index and Activity index and Languages of publications.*

INTRODUCTION

Publications serve as a key indicator of scientific activity within a specific field, among scholarly communities, or within a country. Research and development are essential for the continued progress and vitality of scientific disciplines. Over the past few decades, numerous evaluation studies have emerged, providing valuable guidelines for measuring scientific growth. Assessing the research output of individuals, groups of scientists, nations, or even groups of nations is crucial for identifying scientific priorities and informing policy decisions or adjustments that support the advancement of science and technology. **Scientometrics:** The term "Scientometrics" gained prominence with the establishment of the journal Scientometrics by T. Branin in 1977, originally published in Hungary and currently based in Amsterdam. The journal's aim is to publish studies focusing on the qualitative aspects of science as a discipline. Scientometrics is considered a part of the sociology of science and plays a key role in science policy-making. It involves the quantitative analysis of scientific activities, including publication patterns, and thus overlaps with bibliometrics to some extent. Scientometrics is a branch of the broader "Science of Science." According to Nalimov and Mulchenko, it is defined as a sub-field that applies quantitative methods to study science as an information process.**Current Science:**Current Science, a leading interdisciplinary science journal from India, is published fortnightly by the Association in collaboration with the Indian Academy of Sciences. Established in 1932 by prominent figures in Indian science, including C.V. Raman, Birbal Sahni, Meghnad Saha, Martin Forster, and S.S. Bhatnagar, the journal reached its milestone of 100 volumes in 2011. The journal serves as a platform for the communication and discussion of significant issues related to science and scientific activities. In addition to full-length research articles and shorter research communications, it features review articles, scientific correspondence, commentaries, news and views, opinions on recent research, insights on scientific endeavors, articles on Indian universities, laboratories, and institutions, interviews with scientists, personal information, and book reviews. Current Science also provides a forum to address challenges faced by science and scientists, fostering interaction between the scientific communities both in India and internationally. With its expanding readership, the journal continues to be a key medium for scientific discourse.Current Science regularly publishes special sections on a variety of timely and relevant topics, providing a platform for the scientific community to showcase and gain recognition for their work. Recent special sections have covered a range of subjects, including remote sensing, waves and symmetry, seismology in India, nanomaterials, AIDS, Alzheimer's disease, molecular biology of aging, cancer, cardiovascular diseases, the Indian monsoon, water, transport, and mountain weather forecasting in India, among others. These special issues, which attract significant attention, feature contributions from

leading scientists both in India and internationally. Current Science is indexed by major databases, including Web of Science, Current Contents, Geobase, Chemical Abstracts, IndMed, and Scopus. The journal's Impact Factor for 2023 is 1.10.

The Objectives of the study

The following are the important objectives of the study:

- To distribution of year wise publication of in current science journals during the years 2019 to 2023
- To distribution of correlation coefficient and page wise publication in current science journals
- The type of publications in current science journals
- The activity index and priority index of journal of current science research articles outputs
- The activity index and priority index of journal of current science review articles outputs
- The activity index and priority index of journal of current science research news outputs
- The activity index and priority index of journal of current science general articles outputs
- The activity index and priority index of journal of current science commentary outputs
- To distribution on language of publications

Review of Related Literature

Chaman Sab (2024). This paper has been conducted to study the Indian Higher education research output in the last 10 years (2014-2023). We received 3,583 total publications 57,389 citations, and 16.02 Average citations per paper at the time of data extraction. After collecting the Web of Science database, the data were analyzed using specific parameters. This study investigates the impact of the most productive year; most productive subject areas, most collaborative countries, most productive and impactful organizations and authors, and also a study conducted identify the most productive journals and keywords. For visualizing purposes, VOSviewer has been used. We retrieved 3583 publications from the Web of Science (WoS) consisting of 1316 journal articles and 229 review papers. The data analysis indicates that consistent growth increasing multi authorships is a general trend of research-Indian Institute of Technology System IIT System, International Institute for Population Sciences in terms of domestic collaboration.Georgia A Vaitsi (2024). The present study evaluates the published papers in the field of scientometrics and bibliometrics within veterinary or animal studies. The aim was to quantitatively assess the scientific content and bibliometric characteristics of papers that employed scientometrics as a methodological approach to analyze various topics within this broad field. Searches were conducted on 88 different topics, resulting in 517 unique keywords, with 'bibliometric(s)' (n = 45) being the most frequently occurring. The median number of co-authors per paper was 4 (IQR: 3) (min.: 1, max.: 17), with a total of 689 individual authors. Most papers (n = 110, or 67.5%) were published under open access. The median number of citations per paper was 4 (IQR: 9) (max.: 68), and the h-index was 21. Multivariable analysis revealed that a higher number of cited references in the papers and the inclusion of specific animal species in the search were significant factors influencing the number of citations received per paper annually.

Scope of the study

The study covers 3693 articles in volumes from 116 to 125 of the Journal of Current Science published in the years from 2019 to 2023, which form the base of the study.

Data collection and framework of analysis

The article publications in the Journal of Current Science by the scientists in Science were taken as source for the present study. The papers published from 2019 to 2023 by the scientists in Current Science are accounted as 3693. The bibliographical details of publication were collected from Indian Academy Science website. The framework of analysis includes factors such as year wise distribution, Page wise publication, Priority Index and Activity index and Languages of publications.

For Analysis

Table – 1: Distribution of Year wise publication of in Current Science Journals during the years 2019 to 2023

S.No	Year	Vol	Issues	Number of the articles/contributions/Issue No												Total No. of Publications
				1	2	3	4	5	6	7	8	9	10	11	12	
1.	2019	116	12	30	30	29	32	30	31	34	31	35	29	35	35	381
		117	12	29	29	28	29	29	29	29	25	24	20	29	25	325
2.	2020	118	12	27	29	28	27	25	24	28	28	24	27	29	22	318
		119	12	27	28	26	27	26	26	26	27	22	26	37	30	328
3.	2021	120	12	28	27	20	28	20	25	30	31	25	30	30	33	327
		121	12	29	31	39	39	31	29	31	29	22	21	29	34	364
4.	2022	122	12	30	32	38	30	39	30	36	22	32	30	38	35	392
		123	12	32	29	37	33	38	39	30	31	36	30	30	34	399
5.	2023	124	12	31	32	30	34	35	32	35	39	35	39	38	35	415
		125	12	33	38	39	35	31	33	41	41	36	40	39	38	444
Total				296	305	314	314	304	298	320	304	291	292	334	321	3693
%				8.02	8.26	8.50	8.50	8.23	8.07	8.67	8.23	7.88	7.91	9.04	8.69	100.00

The analysis that investigates starts with the study of the overall distribution pattern of contributions. 3693 contributions have been identified for this research project. The above table shows the overall distribution pattern of contributions and number of contributions for each volume. In the 116 to 125 volumes there are 3693contributions. The number of articles is highest in volume 125 accounting 444 articles in the year 2023. The lowest number of articles is published in the volumes 118 accounting 318 in the year 2020 at that time of COVID period, out of the total contribution during the study period. It can be inferred from the data that most of the volumes have the average number of articles. The number of articles is not uniformly increasing or decreasing. There is a fluctuation in the number of publication during the study period.

Table – 2: Distribution of correlation coefficient and Page wise publication in Current Science Journals

S.No	Year	Vol	Issues	Publications	%	Total No. of Publications	Pages	%
1.	2019	116	12	381	10.32	706	2124	11.96
		117	12	325	8.80		2088	11.75
2.	2020	118	12	318	8.61	646	2006	11.29
		119	12	328	8.88		2050	11.54
3.	2021	120	12	327	8.85	691	1948	10.97
		121	12	364	9.86		1649	9.28
4.	2022	122	12	392	10.61	791	1460	8.22
		123	12	399	10.80		1540	8.66
5.	2023	124	12	415	11.25	859	1488	8.38
		125	12	444	12.02		1412	7.95
Total				3693	100.00	3693	17765	100.00

The above table revealed that the correlation coefficient and page number of journal issues and the number of publications in the journal of current science research. It is found that there was a growth in the number of journals attested by a corresponding growth in the number of publications too. The correlation coefficient of the number of research papers and the number of journal issues that published them was which proved positive. The inference is that as the number of research publications increased, the number of journal issues also increased and pages trend also increased.

Table – 3: Type of Publications in Current Science Journals

S.No	Publications	2019	2020	2021	2022	2023	Total	%
1.	Research Articles	354	343	372	402	436	1907	51.64
2.	Review articles	86	70	71	91	102	420	11.37
3.	Research News	45	43	47	54	70	259	7.01
4.	General Articles	39	30	21	41	42	173	4.68
5.	Commentary	28	26	22	35	23	134	3.63
6.	Editorial	29	27	31	20	26	133	3.60
7.	Correspondence	25	23	20	23	30	121	3.28
8.	Opinion	25	22	23	21	18	109	2.95
9.	News	20	18	36	31	39	144	3.90
10.	Research Communications	18	12	10	24	40	104	2.82
11.	Book Reviews	18	16	12	19	12	77	2.09
12.	Erratum	12	11	16	18	11	68	1.84
13.	Historical Notes	7	5	10	12	10	44	1.19
Total		706	646	691	791	859	3693	100.00
%		19.12	17.49	18.71	21.42	23.26	100.00	

The above table revealed that number of items published has been the items, Research Articles more than fifty one percent (~51.64) are well ahead of all other types of articles followed by review articles more than eleven percent (~11.37), research news more than seven percent (~7.01), general news more than four percent (~4.68).

Priority Index and Activity index

Priority Index (PI) has been calculated to properly normalize the size of a Journal Article and the size of the subject field so that cross national comparisons can be done for these "Frontier" areas of research on the Journal of Current Science. Priority Index is computed by the following formula:

$$\text{Priority Index} = \frac{N_{ij}/N_{io}}{N_{oj}/N_{oo}} \times 100$$

where,

N_{ij} = the number of publications of Journal i in subfield j

N_{io} = the number of publications of Journal i is in all subfields of the major fields

N_{oj} = the number of publications of all Journals viz., the total world output in subfield j

N_{oo} = the number of publications in all sub fields of those major fields

This index is identical to AI proposed and subsequently used among others by Schubert and Braun (Schubert, & et al. 2001). The value of PI = 100 indicates that research priority of a Journal for a given subfield corresponds precisely to the average of all Journals.

PI = 100 indicates average priority,

PI > 100 indicates higher than average priority and

PI < 100 lower than average priority.

It should, however, be kept in mind that (by virtue of definition of PI); no Journal can have high or low priority in all sub fields. From the values of PI, we can compare

(1) The priorities of a given Journal to different subfields in a given time span

(2) The priorities of different Journals to a given subfield in a given time span

(3) The priority to a given subfield in different time spans.

Table – 4: Activity Index and Priority Index of Journal of Current Science Research Articles Outputs

S.No	Yeas	R.O./P of Research Article	COP=A	W.O/P	WOP=B	A/B=AI Value	PI Value
1	2019	354	18.56	706	19.12	0.97	97
2	2020	343	17.99	646	17.49	1.03	103
3	2021	372	19.51	691	18.71	1.04	104
4	2022	402	21.08	791	21.42	0.98	98
5	2023	436	22.86	859	23.26	0.98	98
		1907	100.00	3693	100.00	5.00	

The above table indicates the Activity Index and Priority Index values the output on the Journal of Current Science research outputs during the years 2019 to 2023. The PI value is measured higher than 100 (PI >100) enjoys a higher priority at global level, less than 100 (PI <100) is low priority and round value of 100 (PI=100) is of average priority considering the world output.

The years 2020(103) and 2021(104) have high priority among the selected periods and in the remaining years 2019, 2022 and 2023 have the lowest priority with PI value being less than 100. So that period's publication is low level to calculate the world output of the journal of current science research articles output.

Table – 5: Activity Index and Priority Index of Journal of Current Science Review Articles Outputs

S.No	Years	R.O./P of Review Article	COP=A	W.O/P	WOP=B	A/B=AI Value	PI Value
1.	2019	86	20.48	706	19.12	1.07	107
2.	2020	70	16.67	646	17.49	0.95	95
3.	2021	71	16.90	691	18.71	0.90	90
4.	2022	91	21.66	791	21.42	1.01	101
5.	2023	102	24.29	859	23.26	1.04	104
		420	100.00	3693	100.00	4.97	

The above table indicates the Activity Index and Priority Index values the output on the Journal of Current Science research outputs during the years 2019 to 2023. The PI value is measured higher than 100 (PI >100) enjoys a higher priority at global level, less than 100 (PI <100) is low priority and round value of 100 (PI=100) is of average priority considering the world output.The years 2019 (107), 2022(101) and 2023(104) have high priority among the selected periods and in the remaining years 2020 and 2021 have the lowest priority with PI value being less than 100. So that period's publication is high level to calculate the world output of the journal of current science research articles output.

Table – 6: Activity Index and Priority Index of Journal of Current Science Research News Outputs

S.No	Years	R.O./P of Research News	COP=A	W.O/P	WOP=B	A/B=AI Value	PI Value
1.	2019	45	17.37	706	19.12	0.91	91
2.	2020	43	16.60	646	17.49	0.95	95
3.	2021	47	18.15	691	18.71	0.97	97
4.	2022	54	20.85	791	21.42	0.97	97
5.	2023	70	27.03	859	23.26	1.16	116
		259	100.00	3693	100.00	4.96	

The above table indicates the Activity Index and Priority Index values the output on the Journal of Current Science research outputs during the years 2019 to 2023. The PI value is measured higher than 100 (PI >100) enjoys a higher priority at global level, less than 100 (PI <100) is low priority and round value of 100 (PI=100) is of average priority considering the world output.The year 2023(114) have high priority among the selected periods and in the remaining years 2019 to 2022 have the lowest priority with PI value being less than 100. So that period's publication is low level to calculate the world output of the journal of current science research news output.

Table – 7: Activity Index and Priority Index of Journal of Current Science General Articles Outputs

S.No	Years	R.O./P of General Articles	COP=A	W.O/P	WOP=B	A/B=AI Value	PI Value
1.	2019	39	22.54	706	19.12	1.18	118
2.	2020	30	17.34	646	17.49	0.99	99
3.	2021	21	12.14	691	18.71	0.65	65
4.	2022	41	23.70	791	21.42	1.11	111
5.	2023	42	24.28	859	23.26	1.04	104
		173	100.00	3693	100.00	4.97	

The above table indicates the Activity Index and Priority Index values the output on the Journal of Current Science research outputs during the years 2019 to 2023. The PI value is measured higher than 100 (PI >100) enjoys a higher priority at global level, less than 100 (PI <100) is low priority and round value of 100 (PI=100) is of average priority considering the world output.The years 2019(118), 2022(111) and 2023(104) have high priority among the selected periods and in the remaining years 2020 and 2021 have the lowest priority with PI value being less than 100. So that period's publication is high level to calculate the world output of the journal of current science general articles output.

Table – 8: Activity Index and Priority Index of Journal of Current Science Commentary Outputs

S.No	Years	R.O./P of Commentary	COP=A	W.O/P	WOP=B	A/B=AI Value	PI Value
1.	2019	28	20.90	706	19.12	1.09	109
2.	2020	26	19.40	646	17.49	1.11	111
3.	2021	22	16.42	691	18.71	0.88	88
4.	2022	35	26.12	791	21.42	1.22	122
5.	2023	23	17.16	859	23.26	0.74	74
		134	100.00	3693	100.00	5.04	

The above table indicates the Activity Index and Priority Index values the output on the Journal of Current Science research outputs during the years 2019 to 2023. The PI value is measured higher than 100 (PI >100) enjoys a higher priority at global level, less than 100 (PI <100) is low priority and round value of 100 (PI=100) is of average priority considering the world output.The years 2019(109), 2020(111) and 2022(122) have high priority among the selected periods and in the remaining years 2021 and 2023 have the lowest priority with PI value being less than 100. So that period's publication is high level to calculate the world output of the journal of current science Commentary output.

Table – 9: Distribution on Language of Publications

S. No	Language	Count	Percentage
1.	English	3693	100.00

The above table reveals the language of publications. The research literature output in the journal of current science during the period of coverage was found to be English language only. There are no more Non-English contributions. English proved to be the *lingua franca* to the scientific community engaged in

the journal of current science research across the world. There was not even a single one in Hindi language.

CONCLUSION

The study of the Current Science journal's publications reveals a dynamic pattern of research output over the period from 2019 to 2023. A total of 3,693 contributions were identified, with the highest number of articles published in volume 125 in 2023 and the lowest in volume 118 in 2020, during the COVID-19 pandemic. The overall data indicates that most volumes maintained an average number of publications, although there were fluctuations throughout the period. The years 2019, 2022, and 2023 saw a higher priority for publications, while 2020 and 2021 experienced a decline, as reflected in the Priority Index (PI) values below 100.The research output in Current Science was predominantly in English, reinforcing the journal's role as a global platform for scientific communication, with no contributions in other languages such as Hindi. The majority of publications were research articles, comprising over 51.64% of the total output. Review articles, research news, and general news followed, contributing 11.37%, 7.01%, and 4.68%, respectively. This study highlights the importance of *Current Science* as a significant avenue for disseminating scientific knowledge and its role in fostering global collaboration within the scientific community.

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