A Scientometrics Profile on Indian Journal of Traditional Knowledge in NAISCAIR

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Abstract- *The present study is based on the Scientometrics analysis of 495 research article published in NAISCAIR on Indian Journal of Traditional Knowledge during the period of 2014-2018. This Study will review on year-wise distribution, Author wise distribution, Authorship pattern of contributions Institution wise distribution, country-wise distribution, Length of Article wise distribution. The findings must reveal various aspects of the characteristics and patterns of contributions of the study.*

Keywords- Scientometrics, Traditional, NAISCAIR, Authorship pattern.

I. INTRODUCTION

Now a day's Scientometric is one of the truly interdisciplinary research fields extended to almost all scientific fields. Scientometric applications are used to measure scientific activities, mainly by producing statistics on scientific publications indexed in databases. Scientometric is the branch of science that describes the output traits in terms of organizational research structure, resource inputs and outputs, develops benchmarks to evaluate the quality of information output. Also Scientometric studies characterize the disciplines using the growth pattern and other attributes. These applications are extremely valuable methods for evaluating research output, to know about the author productivity and citation analysis in science and technology. Further Scientometric tools can be used to measure and describe countries, universities, research institutes, journals, specific research topics and specific disciplines (Singh, 2014).

II. DEFINITION ANALYSIS

2.1 Scientometrics:

According to bankapur, M.B. and Kumabar, (1993) "Scientometrics is a more general that Bibliometrics. It is interesting to know, that both disciplines have a large overlap. It is surprised to learn certain comments stating that both disciplines have a large overlap. It is surprised to learn certain comments stating that Scientometrics, using Bibliometrics techniques id a part of Bibliometrics".

2.2 Scientometrics Analysis:

According to (2006), wouters, a cart intension has always existed between academic Scientometrics and political /practical, Scientometrics, the letter of which has been described as a hybrid of social science and bur rerate expertise (2006).

III. NISCAIR

The National Institute of Science Communication and Information Resources, situated at New Delhi, India.It is an information science institute in India. The INSDOC and NISCOM they have two organizations merge in NISCAIR and founded in 2002. It operates under the umbrella of the Council of Scientific and Industrial Research (CSIR) that comprise 38 other labs and institutes Overall in India. The institute provides the Associateship in Information Science Degree, and also publishes several academic journals and magazines. NISCAIR introduced various academic courses and research program for the first time leading to Ph.D. and M.Sc. in Science & Technology Communication under the Faculty of Mathematical & Information Sciences of the Academy of Scientific & Innovative Research, an institution of national importance established by an Act of Parliament. NISCAIR's also 12 research journals listed in the Journal Citation Report 2018 are among 104 journals listed from India. They include subject fields Life Sciences, Social Sciences, Physical Sciences and Health Sciences.

IV. LITERATURE REVIEW

Akulwar M & Khaparde V S(2017) The study is based on the Scientometricis analysis of 113 research article published in SCOPUS on Malaysian journal of medicine & health science during the period of 2012-2016. The year 2013 shows the maximum number of contributions 26 articles 23.01%.This study reveals that the categories of article distribution are remarkable in this resent journal. All the

articles were published in English language. Most productive authors are Rampal L. who had contributed 14(2.73 %) articles. The majority of the article was a contribution by four authors 26 and single authors is 7. Department of Pathology, Faculty of Medicine and Health Sciences, University Putra Malaysia, Malaysia contributed 57(11.13) times. **Dr. Sonwane S. S and Dandge Satish V.** (2017) this paper attempts to highlight the quantitative assessment of status of the Journal by way of analyzing the various features of Journal Pharmaceutical Research. During 2010-2014 a total of 1385.The Collaboration rates of articles published per year were 100. The highest numbers of Articles (289) were produced in 2012 respectively. Authorship trend is towards multiple-authored papers. Single authored papers accounted for 2.60 percentages. Out of 1385 articles, 220 articles (15.88%) are written in collaboration with International Institutions. The collaboration is observed with two countries and three countries.

V. OBJECTIVE OF THE STUDY

1. To study the Data Analysis & Interpretation
2. To study the Author's Productivity
3. To study the year-wise distribution of publishing and citation.
4. To study the growth Rate (GR) and doubling time (DT) of publications
5. To find out the authorship and degree of collaboration pattern in the publication
6. To identify the length of Article.
7. To find out organization-wise distribution of publication.
8. To find out country-wise distribution of publication.

VI. SCOPE AND LIMITATION OF THE STUDY:

The present study is based on the Indian Journal of Traditional Knowledge: A Scientometrics study. The present study is based on over all 495 contributions during 2014-2018.

VII. DATA COLLECTION

Data can be numerically expressed that is quantified quantifiable or objective (Fasibs off and Dely, 1990) the data was collected from Indian Journal of Traditional Knowledge published in NISCAIR, with the help of excel. Total 495 contributions during 2014-2018.

VIII. DATA ANALYSIS AND INTERPRETATION:

Scientometrics analysis is a branch of bibliometrics. It is an important research tools for understanding of the subject it aims at measuring the utility of documents and relationship between documents and fields. The present study is based on the Indian Journal of Traditional Knowledge Published in NISCAIR. The present study is based on over all 495 contributions during 2014-2018.

IX. DATA ANALYSIS & INTERPRETATION

In views of the objectives of the present study, analysis the terms "Journal of Traditional Knowledge Published in "NISCAIR" on during 2014-2018.

Table No.01 Year wise Author productivity

Year	Single Author	Malty Author	Total Author
2014	6	90	96
2015	6	92	98
2016	7	92	99
2017	7	92	99
2018	4	99	103
Total	30	465	495

Distribution of Year wise Author productivity is given in the Table No.1 The table shows the single authorship is predominant then multi authors. The majority of the contributions are contributed by multi author. Majority of the contributions are contributed by Multi authors with 465. Minimum of the contributed by Single Author with 30.

Table No. 2 Authorship pattern

Year	Single Author	Double Author	Three Author	Forth Author	Five Author	Six Author	More than six
2014	6	26	27	17	9	5	6
2015	5	24	16	19	15	6	12
2016	7	20	19	20	12	13	8
2017	7	18	20	19	12	13	10
2018	4	13	22	20	20	8	16
Total	30	101	104	95	68	45	52

Table No.2 show the authorship pattern of the papers published during the period of study. The highest numbers of articles had been published by three authors 104. This is followed by 101 authors in Double authors. The minimum numbers of authors is single authors of 30.

Table No 3. Data Analysis and Interpretation.

Year	Total No. Of Articles	Total No. of Author	AAPP	PPA
2014	100	347	3.47	0.29
2015	98	365	3.72	0.27
2016	98	390	3.98	0.25
2017	98	412	4.20	0.24
2018	101	437	4.33	0.23
Total	495	1951	3.94	0.25

The data pertaining to author productivity has presented in the Table No.03 shows that the total Average number of authors per paper is 3.94 for the relatively equal average number of authors Per article when compared the total average number of authors per article. The average Productivity per author is 0.25 during the year 2014-2018. Productivity has been calculated with the following formula. Average Authors per Paper = No. of Authors / No. of Papers Productivity per Author = No. of Papers / No. of Authors.

MOST PRODUCTIVE AUTHORS:

Table No.04 Shows Most Productive Author

Sr .No.	Authors	Total	%
54	Cakilcioglu, Ugur	7	0.36
55	Mukherjee, Pulok K	7	0.36
56	Singh, Ranjay K	7	0.36
51	Khatoon Sayyada	5	0.26
52	Maroyi, Alfred	5	0.26
53	Özcan, Mehmet Musa	5	0.26
39	Alves, Römulo Romeu da Nóbrega	4	0.21
40	Bahadur, Shiv	4	0.21
41	Dharati Kumar Avinash	4	0.21
42	Bussmann, Rainer W	4	0.21
43	Gupta, Rajinder K	4	0.21
44	Hart	4	0.21
45	Kar, Amit	4	0.21
46	Khan, Barkat Ali	4	0.21
47	Kumar, Rakesh	4	0.21
48	Maiti Sanjit	4	0.21
49	Rawat, Ajay Kumar Singh	4	0.21
50	Tripathi, Manoj	4	0.21
1	Ahmmed SK Milan	3	0.15
2	Al Dhabi Naif Abdullah	3	0.15
3	Arora, Rajesh	3	0.15
4	Balangcod Teodora D	3	0.15
5	Barua, Chandana Choudhury	3	0.15
6	Batsatsashvili, Ketevan	3	0.15
7	Carmen, Vega-Menchaca María del	3	0.15
8	Chawla, Raman	3	0.15
9	Dane, Senol	3	0.15
10	David, Pedroza-Escobar	3	0.15
11	de Jesus, Jercivanio Carlos da Silva	3	0.15
12	Duraipandiyan, V	3	0.15
13	Dwivedi, Neelesh	3	0.15
14	Franco F Merlin	3	0.15
15	Gupta, SK	3	0.15
16	Hidayati Syafitri	3	0.15
17	Itankar, Prakash R	3	0.15
18	Juhaimi, Fahad AL	3	0.15
19	Kikodze, David	3	0.15
20	Mann, Sonia	3	0.15
21	Maulik Sankar Roy	3	0.15
22	Narel, Y	3	0.15
23	Patowary, Pompy	3	0.15
24	Paul, Narinder	3	0.15
25	Pirbalouti Abdollah Ghasemi	3	0.15
26	Polat, Rıdvan	3	0.15
27	Popović Zorica	3	0.15
28	Robbie, E	3	0.15
29	Selvamuthukumaran Meenakshisundaram	3	0.15
30	Sharma, BC	3	0.15
31	Sharma, HP	3	0.15
32	Sharma, Rakesh Kumar	3	0.15
33	Singh A K	3	0.15
34	Singh Ranjay K	3	0.15
35	Slathia, PS	3	0.15
36	Tamang, Jyoti Prakash	3	0.15
37	Tchelidze, David	3	0.15
38	Tiwari, Ashok Kumar	3	0.15
57	Author Publishing Two (2x117)	234	11.99
58	Author Publishing One (1x1519)	1519	77.86
Total		1951	100.00

It can be observed from Table No.04 that, the three most productive authors are Cakilcioglu Ugur, Mukherjee Pulok K and Singh Ranjay K had contributed 7 papers. And this followed by Khatoon Sayyada , Maroyi Alfred, Özcan Mehmet Musa are contributed 8 papers. The rest 1519 (77.86 %) authors each published one articles.

Table No. 05 Institute-Wise Distribution of Articles Published

Sr. No.	Affiliations	Total	%
1	School of Natural Product Studies, Department of Pharmaceutical Technology, Jadavpur University, Kolkata-700032, India;	28	1.44
2	Pharmacognosy and Ethnopharmacology Division, CSIR-National Botanical Research Institute, Post Box No. 436, Rana Pratap Marg, Lucknow-226001, India	23	1.18
3	Division of CBRN defense, Institute of Nuclear Medicine and Allied Sciences, Delhi- 110052, India	20	1.03
4	Department of Food Engineering, Faculty of Agriculture, Cukurova University, Adana, 01330, Turkey	18	0.92
5	Department of Food Engineering, Faculty of Agriculture, Cukurova University, Adana, 01330, Turkey	18	0.92
6	Institute of Botany and Bakuriani Alpine Botanical Garden, Ilia State University, Botanikuri St. 1, 0105 Tbilisi, Georgia;	18	0.92
7	Turgut Ozal University, Medical Faculty, Department of Physiology, Ankara, Turkey	12	0.62
8	University School of Biotechnology, Guru Gobind Singh Indraprastha University, Dwarka, New Delhi - 110078, India	12	0.62
9	Ayurveda Sadan, JRD Tata Foundation for Research in Ayurveda & Yoga Sciences, Arogyadham, Deendayal Research Institute, Chitrakoot, Satna 485 334, Madhya Pradesh, India	11	0.56
10	Department of Livestock Production Management, College of Veterinary and Animal Sciences G B Pant University of Agriculture and Technology, Pantnagar-263145, Uttarakhand;	11	0.56
11	William L. Brown Center, Missouri Botanical Garden, PO Box 299, St. Louis, MO 63166-0299, USA	11	0.56
12	College of Fisheries, Assam Agricultural University, Raha-782103, Nagaon, Assam	10	0.51
13	Department of Pharmacology & Toxicology	10	0.51
14	Indian Council of Agriculture Research, Research Complex for North Eastern Hill Region, Mizoram centre, Kolasib, Mizoram-796081	10	0.51
15	Central Soil and Water Conservation Research and Training Institute, Research Centre, Semiliguda, Koraput -763002, Odisha, India	9	0.46
16	Department of Botany, University of Venda, Private Bag X5050, Thohoyandou 0950, South Africa	9	0.46
17	Department of Pharmacology and Toxicology, College of Veterinary Science, Khanapara, Guwahati-781022, Assam	9	0.46
18	Department of Civil Engineering, Covenant University, P M B 1023, Ota, Nigeria;	8	0.41
19	National Dairy Research Institute, Karnal-132001, Haryana, India;	8	0.41
20	The Faculty of Cultural Science, Mahasarakham University, Khamriang Sub-District, Kantarawichai District, Maha Sarakham Province 44150, Thailand	8	0.41
21	Undergraduate Student Researcher, Department of Medical Laboratory Science, Saint Louis University Baguio City, Benguet, Philippines	8	0.41
22	All India Coordinated Research Project for Dryland Agriculture, Biswanath Chariali Center, BN College of Agriculture, AAU, Biswanath Chariali-784176, Assam	7	0.36
23	CAZRI Krishi Vigyan Kendra, Pali-Marwar 306 401, Rajasthan	7	0.36
24	Central Soil Salinity Research Institute, Karnal-132001, Haryana	7	0.36
25	Department of Life and Environment Sciences, Botany and Botanical Garden Division, University of Cagliari, Italy	7	0.36
26	Department of Natural Products, National Institute of Pharmaceutical Education and Research (NIPER) Sector 67, SAS Nagar, Mohali-160062, Punjab, India	7	0.36
27	Department of Rasa Shastra, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi-221 005, Uttar Pradesh, India	7	0.36
28	Facultad de Ciencias Químicas, Universidad Juárez del Estado de Durango México.	7	0.36
29	ICAR-National Rice Research Institute, Cuttack-753006, India;	7	0.36
30	School of Biotechnology, University of Jammu, Jammu, J&K-180006, India	7	0.36
31	School of Environmental Sciences, Jawaharlal Nehru University, New Delhi-110067, India	7	0.36
32	Wildlife Institute of India, Chandrabani, Dehradun-248001, Uttarakhand, India	7	0.36
33	Amity Institute for Herbal and Biotech Products Development, Peroorkada P O, Thiruvananthapuram 695 005, Kerala	6	0.31
34	Amity Institute of Biotechnology, Amity University Uttar P	6	0.31
35	College of Fisheries, Shirgaon, Ratnagiri-415 629	6	0.31
36	Council of Scientific and Industrial Research - Central Food Technological Research Institute, Resource Centre, Habshiguda, Uppal Road, Hyderabad 500 007, India	6	0.31
37	Department of Biology, College of Science, University of the Philippines Baguio	6	0.31
38	Department of Biology, Faculty of Sciences and Arts, Süleyman Demirel University, Isparta, Turkey;	6	0.31
39	Department of Botany and Microbiology, Addiriyah Chair for Environmental Studies, College of Science, King Saud University, Riyadh-11451, Saudi Arabia	6	0.31
40	Department of Parasitology, College of Veterinary Sciences, Khanapara-781 022, AAU, Guwahati, Assam	6	0.31
41	Department of Pharmacognosy, Faculty of Pharmacy, Marmara University, 34668, Turkey;	6	0.31
42	Division of Agricultural Extension Education; KVK Doda, Division of Agroforestry; Division of Agronomy, Sher-e-Kashmir University of Agriculture Sciences & Technology of Jammu J&K	6	0.31
43	Division of Agricultural Extension, Indian Agricultural Research Institute, New Delhi-12	6	0.31
44	G B Pant National Institute of Himalayan Environment & Sustainable Development, Himachal Unit, Mohal-Kullu, 175 126, Himachal Pradesh, India	6	0.31
45	Institute for Biological Research, University of Belgrade, Bulevardespota Stefana 142, 11060 Belgrade, Republic of Serbia;	6	0.31
47	Research Center for Medicinal Plants & Ethno-veterinary, Shahrekord Branch, Islamic Azad University, PO Box: 165, Shahrekord, Iran	6	0.31
49	SMS, Krishi Vigyan Kendra-Cuttack, ICAR-National Rice Research Institute, Cuttack-753 006, Odisha, India	6	0.31
51	Five Institution Publication (5x27)	135	6.92
53	Four Institution Publication (4x69)	276	14.15
55	Three Institution Publication (3x80)	240	12.30
57	Two Institution Publication (2x192)	384	19.68
59	Single Institution Publication (1x478)	478	24.50
	Total	1951	100.00

Institution is a society or organization for the promotion of science, education etc. An institute is a permanent organizational body created for a certain purpose. Often it is a research organization (research institution) created to do research on specific topics. An institute can also be a professional body. In some countries institutes can be part of a university or other institution of higher education, either as a group of departments or an autonomous educational institution without a classic full university status such as a University Institute.

Table 06: Country-Wise Distribution of Articles

Sr. No	Country	Total	%
1	India	1092	55.971
2	Turkey	185	9.482
3	Iran	79	4.049
4	South Korea	75	3.844
5	México	48	2.460
6	China	39	1.999
7	Pakistan	30	1.538
8	Brazil	25	1.281
9	USA	25	1.281
10	Malaysia	24	1.230
11	Georgia	23	1.179
12	Nigeria	22	1.128
13	Saudi Arabia	20	1.025
14	Philippines	19	0.974
15	Republic of Serbia	19	0.974
16	Thailand	19	0.974
17	Egypt	14	0.718
18	Sri Lanka	14	0.718
19	Bangladesh	12	0.615
20	Ethiopia	12	0.615
21	Indonesia	12	0.615
22	Nepal	12	0.615
23	Algeria	11	0.564
24	Brazi	10	0.513
25	Tanzania	9	0.461
26	Benin	9	0.461
27	Italy	9	0.461
28	Poland	8	0.410
29	Czechia	6	0.308
30	Harare	6	0.308
31	Korea	6	0.308
32	Lebanon	6	0.308
33	Slovenia	6	0.308
34	Lithuania	5	0.256
35	Four Institution Publication (4x3)	12	0.615
36	Three Institution Publication (3x3)	9	0.461
37	Two Institution Publication (2x5)	10	0.513
38	Single Institution Publication (1x9)	9	0.461
	Total	1951	100

It can be observed from Table No 06 that, there were as many countries carrying out research and produced 495 articles. Table no.05 provides ranked List of countries contributing to this field, the number of publications of each country and their share in percentages. India is the top producing country with 1092 (55.97%) publications of the total Output. And this followed by Turkey published a 185 (9.48) publications. Also it can be stated that papers not mentioned their country of publication are more than other countries in this study.

Relative Growth Rate [r (a)] And Doubling Time [dt (a)] For Publications:

RELATIVE GROWTH RATE (RGR):

The Relative Growth Rate (RGR) is the increase in number of articles/ pages per unit of time. This definition is derived from the definition of relative growth rates in the study of growth analysis of individual plants and effectively applied in the field of Botany Hunt(1919) and, Blackman (1919) defined, which in turn had its origin from the study of the rate of interest in the financial investment. The mean Relative Growth rate (R) over the specific period of interval can be calculated from the following equation.

R 1-2 = Loge 2 W - loge IW

Whereas,
1-2 R = mean relative growth rate over the specific period of interval.
Loge IW = log of initial number of Articles.
Loge 2 W = log of final number of articles after a specific period of interval.
2 T - 1 T = the unit difference between the initial time and final time. The year can be taken here as the unit of time. The RGR for articles is hereby circulated.

Therefore,

1-2 (aa-1 year-1) can represent the mean relative growth rate per unit of year over a specific period of interval.

DOUBLING TIME (Dt)

There exists a direct equivalence between the relative growth rate and the doubling time. If the numbers of articles/pages of subject double during a given period then the difference the logarithms of numbers at the beginning and end of this period must be logarithms of number.

2. If natural logarithm is used this difference has a value of 0.693. Thus the corresponding doubling time for each specific period of interval and for both articles and pages can be calculated by the formula,

Doubling time (Dt) = 0.693/ R (A)
Therefore,
Doubling time for articles D(t) = 0.693/1-2 R (aa-1 year-1)

Table No. 07: Relative Growth Rate and Doubling Time of Publication

Year	No of Articles	Cumulative Frequency	W1	W2	RGR	Mean [R(A)]	DT (A)	Mean DT (A)
2014	100	100		4.65				
2015	98	198	4.65	5.29	0.64		1.08	
2016	98	296	5.29	5.69	0.40	0.08	1.73	0.60
2017	98	394	5.69	5.98	0.29		2.39	
2018	101	495	5.98	6.25	0.27		2.57	

From the table no.07 no, it noticed that the mean relative growth for the first five years 2014 to 2018 is (0.08). While the Doubling time for different years [DT (A)] gradually increased from (0.60).Thus as the rate of growth of publication was decreased, the corresponding Doubling Time was increased.

Table No. 09: Language-wise Distribution of Art

Language	Frequency	Percentage
English	495	100
Total	495	100

From table no. 09 Show that, the language wise distribution of Article published in NISCAIR. Total 495 Article were published in "Indian Journal of Traditional Knowledge" from 2014 to 2018. All the articles were published in English language.

IX. FINDINGS

1. The highest numbers of papers were published in 2018 contributing.
2. The highest numbers of articles has been published by three authors 104.
3. Most productive authors are Cakilcioglu Ugur, Mukherjee Pulok K and Singh Ranjay K had contributed 7 papers.
4. The School of Natural Product Studies, Department of Pharmaceutical Technology, Jadavpur University, Kolkata-700032, India contributed 28(1.44%) times.
5. 1951 countries carrying out research and produced 495 articles. India is the top producing country with 1092 (55.971%) publications of the total output.
6. The 495 (100.00%) articles were published in English Language.

X. CONCLUSIONS

Scientometrics relatively new subject of Indian Journal of Traditional Knowledge. It helps to evaluate information & to handle the information in libraries and information centers by the quantitative analyzed information. It deals with the mathematical and statistical analysis. We concluded that the present study is based on Indian Journal of Traditional Knowledge. This study is helpful for researches as well as information scientists. It is good and informative for the researcher.

Total 495 articles publish in present journal during the period of study. The year 2018 shows the maximum number of contributions 101 articles. Present study reveals that the categories of article distribution are remarkable in this resent journal. All articles were published in English language. Most productive authors are Cakilcioglu Ugur, Mukherjee Pulok K and Singh Ranjay K had contributed 7 papers. The majority of the article was a contribution by three authors 104 and single authors is 30. D School of Natural Product Studies, Department of Pharmaceutical Technology, Jadavpur University, Kolkata-700032, India contributed 28(1.44%) times.

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