Research and Theory: A Bibliometric Analysis

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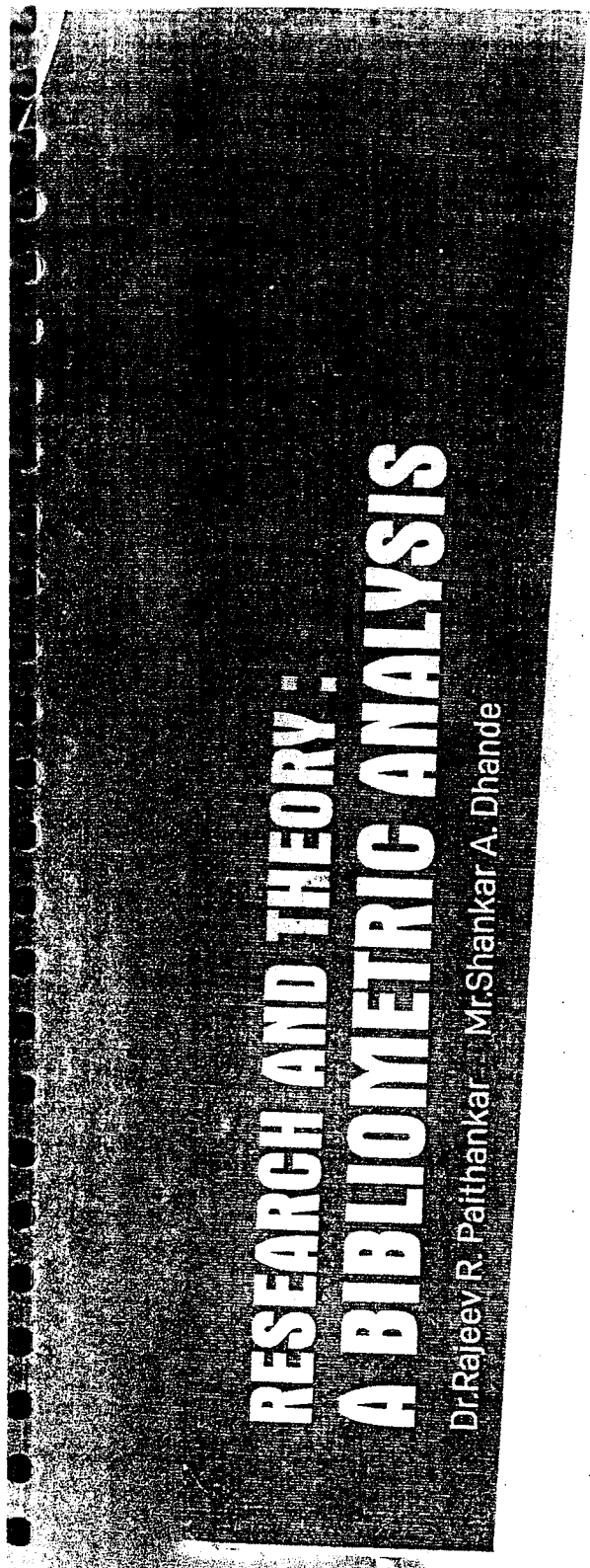

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  Mr. Shankar A. Dhande
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Neuro Physics in Scopus: A Scientometric Study

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Abstract

The study is based on the scientometric analysis of 166 research articles published during 2012-2016. This study reviewed on year-wise distribution, authorship pattern of contributions, institution and country-wise distribution, the journal cybermetrics most productive journal in article. Average number of authors per paper is 17.91. The average productivity per author is 1.42 and the maximum no of author's 589contribution165 article (0.24%) with article contributed in 2013i.e. Mean relative growth rate for the five years 2012 to 2016is (0.27), While the Doubling time for different years [Dt (p)] gradually increased from (7.4) in2012 to (0.89) in 2016 out of total 589 contributions majority of the contributions out of 166 country that majority of articles 24 have been contributed from Germany. Finally, web references are 6992, print references 5372 are given in the article

Keywords: Scientometric Analysis, Neuro Physics, Scopus

I. Introduction:

Scientometrics is the branch of science that describes the output trains in terms of organizational research structure, resource inputs and outputs, develops benchmarks to evaluate the quality of information output. (Ram Chandra, 2012). Scientometrics is the science of measuring and analysing science. In practice, Scientometrics is often one using Bibliometrics which is a measurement of the impact of (scientific) publications. Scientometrics is one of the most important measures for the assessment of scientific productions. Scientometrics is the English translation of the title word of Nalimov's classic monograph Naukometriy in 1969, which was relatively unknown to western scholars even after it, was translated into English. Scientometrics is a discipline which analyses scientific publications to explore the structure and growth of science Rajendran (2010 Ed.) (**Wikipedia**).

II. Review of Literature:

Turlac Sultan, Massimo Pregnolato 2015): Quantum neuropsychiatry: From non-living matter to quantum neurobiology and psychopathology, studying the concepts of quantum brain, quantum mind and quantum consciousness have been increasingly gaining currency in recent years, both in scientific papers and in the popular press. In fact, the concept of the quantum brain is a general framework. Included in it are basically four main sub-headings. These are often incorrectly used interchangeably. Sifa University, Department of Neurology, İzmir, Turkey INTPSY-10932

Bala and Gupta (2010) have analysed research profile of biochemistry, genetics and molecular biology research in India. Publication's output of 45,712 papers and 2.37 % in 2007. India"s world ranking improved form 14th in global context. 20 most productive institutions in India's total research during 1998-, 0[illegible] were 40.01%.

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Balasubramani and Parameswaran (2014) did study on growth and the contribution of Banaras Hindu University (BHU). The study show that research output of BHU was 578 records. Most preferred journals of the authors of were "Current Science". The Institute of Technology leads in publications productivity with 1482 (21.3%) articles. He studied collaborated with the foreign authors for their research work.

Bidyarthi and Durga (2013) The scientometric study of 1198 articles on Cosmology research. The two-authored publications highest almost 33%. A. Pradhan is the most productive author with 57 publications USA (12.13%) topmost country

Bluma& Others (2002) the aim of this study was to examine the extent to which the field of bibliometrics and scientometrics makes use of sources outside the field. The results show that in 2000, 56.9% (and 47.3% in 1990) of the references originated from three fields: scientometric and bibliometrics; library & information 15 science; and the sociology, history and philosophy of science.

Thavamani and Kott, (2013) bibliometric techniques were applied to analyse the authorship trends in Chinese a librarianship'' in international journal **CLIGE** period of during 1996-2013. A total of 133 articles and 221 authors in the Journal were examined by year and volume to ascertain authorship patterns, author productivity, and degree of collaboration. The average number of authors per paper is 1.661% and the average productivity per author is 0.601%. The average degree of collaboration is 0.443 during the period under study.

Pradhan, Panda and Chandrakar,(2011) The study presents the trends in authorship pattern and authors collaborative in Indian chemistry with sample 53,9077 articles downloaded from SCI-Expanded database in Web of Science during the period 2000-2009. The average number of authors per article is 3.55 %. In the study the degree of collaboration (C) during the overall 10 years (2000-

2009) is 0.03, but the year wise degree of collaboration is almost same in all the years of mean value 0.97. In the 10 years of period, the multi-authorship articles are higher and predominant on single authorship. The study found that the researchers in chemistry are keen towards team research or group research rather than solo research.

III. Objectives of the Study

- To Study distribution Articles in Journals
- To study Author's contribution pattern
- To find out Year wise Distribution of contribution
- To Identify Relative Growth Rate (RGR) and Doubling Time (DT) of Articles.
- To analyze Year wise Degree of Collaboration.
- To Find out Country wise Distribution of contributions.
- To find Out Reference wise distribution of the Articles

a. Data Collection

Data can be collected from Articles on Scopus database and total articles 166 contributions during period 2012-2016.

IV. Data Analysis and Interpretation.

Scientometric analysis is a branch of bibliometric. 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 Scientometric profile of neuro physics during period 2012-2016 and 166Articles.

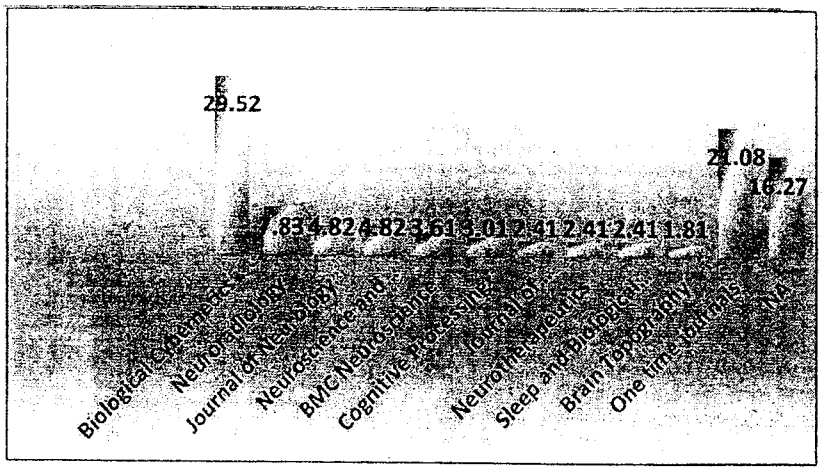

Fig No.1 distribution of journals of the Articles

It can be observed from Fig no.1 There were many journals contributed in this study. The journal Biological Cybernetics is on first position with 49 contributions with (29.52) percentages. Then Journal of Neuroradiology is on second rank with frequency 13and (7.83) % Like that Journal of Journal of Neurologyis on rank third. Like that all rank is in the above table.

Table No 2-To study Authorship pattern of contribution

Authorship pattern					
Sr. no	**Year**	**No. of Article**	**No of Author**	**AAPP**	**PPA**
1	2012	44	136	3.09	0.32
2	2013	40	165	4.13	0.24

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3	2014	31	95	3.06	0.33
4	2015	24	88	3.67	0.27
5	2016	27	107	3.96	0.25
	Total	**166**	**589**	**17.91**	**1.42**

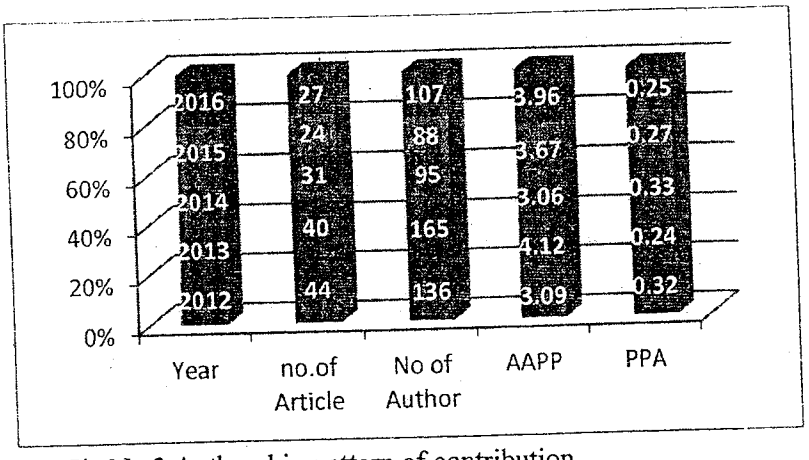

Fig No.2 Authorship pattern of contribution

The data pertaining to author productivity has presented in the Table No.2& Fig no.2 shows that the total average number of authors per paper is 17.91 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 1.42during the year 2012 – 2016. 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

Table no. 3 Distribution of Contribution (year wise)

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Sr. No	Year	No of Article	%	No of Author	%
2	2012	44	26.5	136	23.09
3	2013	40	24.1	165	28.01
4	2014	31	18.7	95	16.13
5	2015	24	14.5	88	14.94
6	2016	27	16.3	107	18.17
Total		**166**	**100**	**589**	**100**

From table no 3 show that, the Distribution of contributions (year-wise) is out of the total 589 contributions majority of the author's contributions i.e., 165 (28.1%) contributions were contributed in 2013. were as minimum contributions by authors i.e. 88 (14.94%) contributions were contributed in 2015 No of articles are 166 with contribution of 589author's during period (2012-2016)

Figure 3 Most Productive Country wise article

From above figure no. 4. show that 166 contributors, there were 24 (14.46)% of articles contributed form Germany. ,18(10.84) of articles contributed form USA ,contribution from Italy with 9(5.42)%, Russia& UK contributed 6 (3.61)%, contributed from Japan contributed, 5(3.01)% contribution from china & France are 4(2.41)% while there are 6 country have 3 with (1.81%) and contribution and seven country have 2(1.20)% contribution twelve country have 1(0.60)% contribution in these article 38 (22.89)% country are not available in articles.

Table No 5. Number of References wise distribution of contributions

Sr.no	year	web reference	Print references	Total references	percent%
1	2012	1787	302	2089	16.90
2	2013	1185	1190	2375	19.21
3	2014	1197	1064	2261	18.29
4	2015	1275	1273	2548	20.61
5	2016	1548	1543	3091	25.00
	Total	**6992**	**5372**	**12364**	**100.00**

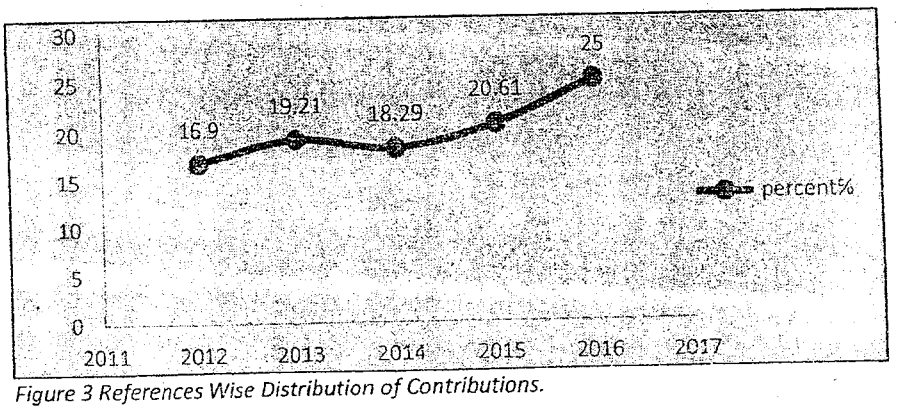

Figure 3 References Wise Distribution of Contributions.

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Table No 6. Relative Growth Rate& Doubling timing of articles

Sr.no	Year	No. of articles	Cum	W1	W2	RGR	Mean	DT	Mean DT
1	2012	44	44		3.8				
2	2013	40	84	3.78	4.4	0.65		7.4	
3	2014	31	115	4.43	4.7	0.31	0.27	0.89	9.65
4	2015	24	140	4.74	4.9	0.2		0.53	
5	2016	27	166	4.94	5.1	0.18		0.83	

From above table no 5 & fig no.3, total no. of web references is 6992, print references 5372 are given and total References are 12364 in above table highest web Reference in the year 2016, web reference 1548, highest print reference year 2016 Print references 1543.

Table No 6. Relative growth Rate& Doubling timing of articles

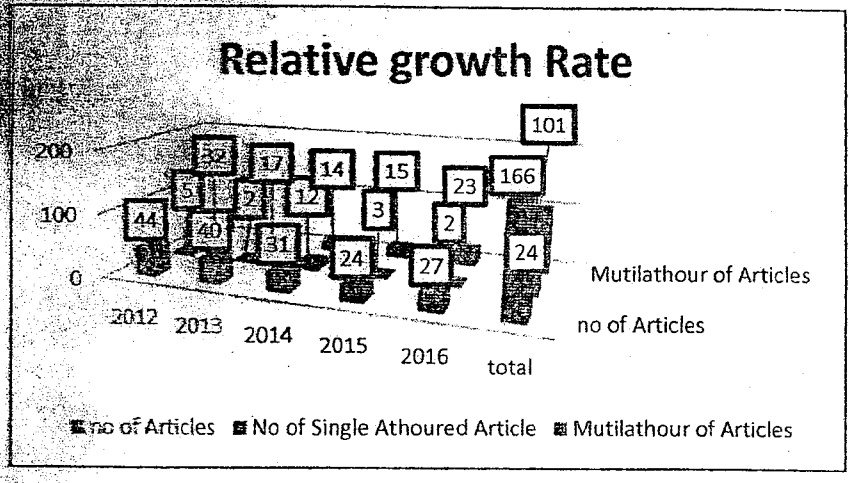

Fig no.4 Relative Growth Rate& Doubling timing of articles

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From table. No 6 Fig no.4shows that the mean relative growth for the five years 2012 to 2016is (0.27), While the Doubling time for different years [Dt(p)] gradually increased from (7.4) in2012 to (0.89) in 2016. The mean doubling time for the five years (i.e. 2012 to 2016) is only (9.65). Thus, as the rate of growth of publication was decreased, the corresponding Doubling Was increased time was increased.

VI. Findings

1. The findings are based on the analysis of collected data appended in 166 articles.
2. The average productivity per author is 1.42during the year 2012 – 2016
3. The total 589 contributions majority of the author's contributions i. e. 165 (28.1%) in 2013.
4. The highest no of 1543 print reference in year 2016
5. The mean doubling time for the five years (i.e. 2012 to 2016) is only (9.65).

Conclusions

Scientometric relatively new subject of information. It helps to evaluate information & tohandle the information in libraries and information centers by the quantitative analyzed Information. It deals with the mathematical and statistical analysis. This is an umbrella term used for many studies where quantitative method or techniques are used to investigate various aspect of written document. This study is completed with the help of MS - Excel. This study is helpful for researchers as well as information scientists. it is good and informative for the researcher

Reference

Tarlaci, S., 2003. A new electronic journal: Neuro Quantology or two sides of the same coin. *NeuroQuantology* 1 (1), 1–3. http://dx.doi.org/10.14704/nq.2003.1.1.1

Bala, Adarsh & Gupta, Brij Mohan. (2010). Research Activities in Biochemistry, Genetics and Molecular Biology during 1998-2007 in India: A Scientometric Analysis. DESIDOC Journal of Library & Information Technology. 30. 3-14. 10.14429/djlit.30.278.

Balasubramani, Rajan & Parameswaran, R.. (2014). Mapping the research productivity of Banaras Hindu University: A scientometric study. Journal of Theoretical and Applied Information Technology. 59. 367-371.

Dutta, Bidyarthi & Prof, Rath,. (2013). Cosmology research in India: a scientometric study.

Tarlaci, S.(2015) A historical view of the relation between quantum mechanics and the brain: a neuroquantologic perspective. *NeuroQuantology* 8 (2), 120–136. http://dx.doi.org/10.14704/nq.2010.8.2.278.

Pradhan, P. Panda, S. and Chandrakar, R. Authorship Pattern and Degree of Collaboration in Indian Chemistry Literature.8th International CALIBER. Goa University, 2011.March 02-04.680-690.12.

Rip, A. (2007). Qualitative Conditions for Scientometrics: The New Challenges. *Scientometrics* 38(1): 7-26.13.

Subramaniam, K. (1983). Bibliometric studies of research collaboration: : A review. Journal of Information Science.6: 33-3814

Thavamani and Kotti. (2014). Authorship and collaborative patterns in the Chinese Librarianship: an International Electronic Journal, 1996-2013. Chinese Librarianship: an International Electronic Journal, 37.

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