

RESEARCH PRODUCTIVITY AND CITATIONS OF UNIVERSITIES IN SOUTH TAMIL NADU: A STUDY BASED ON INDIAN CITATION INDEX (ICI)

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1. INTRODUCTION

India is contributing a good amount of knowledge, but there is no tool for evaluation and measurement of its knowledge. When comparing the international level are more, but coverage of Indian knowledge contents, particularly published in local national journals are negligible. There should be a mechanism for everything to measure them, in this way, when the scholar speak or write it has to be made in the number and quantify it. These numbers are happened to be more with other scholars then these works are cited by many writers the author have more knowledge and subject expert in their subject. Many agencies are providing measuring the publications through giving weight age in the form of Impact Factors. These Impact factors are measured by number articles cited by the authors. The other way, it is measured by publishing them in the form of abstracting and indexing journals which includes the number of citations of the articles in it. This paper has made an attempt to study the Citations by the Indian authors published in ICI journals among the top 1000 journals.

2. INDIAN CITATION INDEX (ICI)

The Indian Citation indexing database is known as Indian Citation Index (ICI) which covers all the disciplinary in nature from 1000 Indian scholarly journals. It has very good searching facility and provides the data related to evaluate the researchers' contributions, policy makers and decision makers in each and every field

in India. This database provides services to the data for the five year back files (depth) for evaluating them. The major two functions of the ICI database are general literature search and evaluation using citations. Citations are indications that the authors might be research scholar or researcher in a research and development institutions. These are also shown the way for further research and current status of the research in a particular field. ICI provides links to both cited and citing works. This kind of information is helping the authors to publish their research results in the current time. ICI is very much useful database for the librarian, researchers and higher education institutions.

3. SCOPE OF THE STUDY

The main aim the study is to analysis the research output and its citation by the authors from Universities in South Tamil Nadu. In South Tamil Nadu consist of four government Universities such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University, Madurai , Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. It discusses the research articles produced by the authors and also shows the citation and cited articles.

4. OBJECTIVES OF THE STUDY

Based on the sources the framed objectives are;

1. To identify the year wise publication of articles in ICI

ABSTRACT

An Indian Citation Index database is a powerful tool that lets you search, track, measure and collaborate in the sciences, social sciences, arts, and humanities to turn raw data/information into the powerful knowledge. This paper is discussed the published research articles and its citation among Universities in South Tamil Nadu. During 2009 to 2013, there were 377 articles published from the analysis, highest publications in the year 2009, 81 (21.49%) articles were published by three universities and 45 citations were identified from the Indian Citation Index.

Keyword : Indian Citation Index, Research Productivity, Citation Analysis, ICI, Indian Publications

2. To know the year wise citation and Cited Articles
3. To identify the subject by highly cited
4. To classify the Document type

5. REVIEW OF LITERATURE

Winter, Zadpoor & Dodou (2014)¹ have studied Web of Science (WoS) and Google Scholar (GS) under the title “The expansion of Google Scholar versus Web of Science: a longitudinal study.” They analyzed the development of citation counts in WoS and GS for two classic articles and 56 articles from diverse research fields, making a distinction between retroactive growth. Results showed that GS has substantially grown in a retroactive manner (median of 170 % across articles), especially for articles that initially had low citations counts in GS as compared to WoS. A discussion was provided on quantity versus quality of citations, threats for WoS, weaknesses of GS, and implications for literature research and research evaluation. Many bibliometric / scientometric studies have been reported in the field and few of the studies have been reviewed and presented below. Rajendran P et. al (2005)² conducted bibliometric study on Fiber Optics literature published in Ei- Tech Index database covering the period 1999-2003. Growth of literature by year wise, country wise production, authorship pattern, bibliographic forms, ranking of core journals, nature of research, have been analysed. Kademani B S, et al. (2006)³ conducted a scientometric study of Thorium research in India with a sample of 2399 papers published during 1970 – 2004 and reported that the authorship trend was towards multi authored papers as 85.7% of the papers were multi authored. Mohan L, et al. (2010)⁴ analyzed the research trends in nanoscience and nanotechnology in India published during 1982 – 2008 and found that there were a total of 19718 individual keywords occurred in the 8326 papers. Anil Sagar, et al. (2010)⁵ made a scientometric analysis of all Tsunami related publications during 1997 – 2008 and found that the CAI for mega authored papers for the countries Japan, India, Italy and France was higher than the world average. Har Gaur and Gupta B M (2010)⁶ carried out a scientometric analysis on Indian dental sciences research during 1999 – 2008 and list out the top 30 productive journals of Indian and foreign origin together contributed 78.19% share to the total cumulative publication output by India in dental sciences. Rajendran P, et al. (2011)⁷ studied the research articles published in Journal of Scientific and Industrial Research. The study analyzed the publication pattern and authorship collaboration in Indian authors.

6. METHODOLOGY

Citation analysis is one of the most widely used methods of Bibliometrics. It is the examination of the frequency, patterns, and graphs of citations in articles and books. . This study is aimed to discuss the analysis of the citation index of the research output of Universities in South Tamil Nadu. The relevant sources and data are collected from Indian Citation Index on 20.3.2014. Based on the available sources the following discussions were made.



Figure 1. Home Page of Indian Citation index

7. ANALYSIS AND INTERPRETATION

The research productivity and contributions of Indian authors are collected from ICI database from universities in South Tamil Nadu. The relevant data were collected from the Indian Citation Index, and the same were analyzed.

Table 1
Distribution of published Articles from
Universities in South Tamil Nadu

S. No	Year	GRI	MKU	MSU	Total
1	2009	29 (7.69)	12 (3.18)	40 (10.61)	81 (21.49)
2	2010	24 (6.37)	12 (3.18)	41 (10.88)	77 (20.42)
3	2011	32 (8.49)	9 (2.39)	50 (13.26)	91 (24.14)
4	2012	22 (5.84)	12 (3.18)	44 (11.67)	78 (20.69)
5	2013	15 (3.98)	5 (1.33)	30 (7.96)	50 (13.26)
		122 (32.36)	50 (13.26)	205 (54.38)	377 (100)

Gandhigram Rural Institute (GRI)
 Madurai Kamaraj University (MKU)
 Manonmaniam Sundaranar University (MSU)

Table 1 indicates the year wise distribution of articles published by authors from Universities in South Tamil Nadu. In South Tamil Nadu four government Universities are considered for the study, such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University, Madurai and Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. As per the data available in the Indian Citation Index there is no papers published from Mother Teresa University. It is considered for the last 5 years, i.e 2009 to 2013. During the period 377 articles were published which are indexed in the Indian Citation Index. Among the 377, in the year 2009, 81 (21.49%) articles were published by three universities. But the maximum number of articles, 91 in the year 2011. Out of 91 articles, 32(8.49%) are articles from Gandhigram Rural Institute, 50 (13.26%) articles from Manonmaniam Sundaranar University and 9(2.39%) from Madurai Kamaraj University. It clearly shows the authors from Manonmaniam Sundaranar University are more concentrating on Indian journals.

Table 2
Year Wise Distribution of Citation from Universities in South Tamil Nadu

S. No.	Year	GRI	MKU	(MSU	Total
1	2009	8 (17.78)	5 (11.11)	3 (6.67)	16 (35.56)
2	2010	2 (4.44)	1 (2.22)	9 (20.00)	12 (26.67)
3	2011	2 (4.44)	1 (2.22)	8 (17.78)	11 (24.44)
4	2012	1 (2.22)	0	3 (6.67)	4 (8.89)
5	2013	1 (2.22)	0	1 (2.22)	2 (4.44)
		14 (31.11)	7 (15.56)	24 (53.33)	45 (100)

Table 2 indicates the year wise distribution of article citation by authors from Universities from South Tamil Nadu. It is considered for the last five years data from 2009 to 2013. During the period, 45 citations were identified from the Indian Citation Index. Among the 45, 14(31.11%) from Gandhigram Rural Institute, 7(15.56%) from Madurai Kamaraj University and 24(6.67%) from Manonmaniam Sundaranar University citations were identified. In the year 2009, 8 (17.78%) from Gandhigram Rural Institute, 5(11.11%) from Madurai Kamaraj University and 3(6.67%) from Manonmaniam Sundaranar University citations were identified. The highest number of citations 16 (35.56%) were identified in the year 2009.

Table 3
Year Wise Distribution of Cited Article from Universities in South Tamil Nadu

S. No	Year	GRI	MKU	MSU	Total
1	2009	6 (17.65)	3 (8.82)	3 (8.82)	12 (35.29)
2	2010	1 (2.94)	1 (2.94)	5 (14.71)	7 (20.59)
3	2011	2 (5.88)	1 (2.94)	6 (17.65)	9 (26.47)
4	2012	1 (2.94)	0	3 (8.82)	4 (11.76)
5	2013	1 (2.94)	0	1 (2.94)	2 (5.88)
		11(32.35)	5(14.71)	18(52.94)	34(100)

Table 3 states the year wise distribution of various cited articles from Universities from South Tamil Nadu. From the year 2009 to 2013 nearly 34 cited articles were identified from the Indian Citation Index. Among the 34, 12(35.29%) cited articles from 2009, 7(20.59%) cited articles from 2010, 9(26.47%) cited articles form 2011, 4(11.76%) cited articles from 2012 and 2(5.88%) cited articles from 2013 were identified. It is clearly shown from the year 2009 the cited articles rate is in the decreasing order.

Table 4
Subject Wise Distribution of Cited Articles (Top 16)

S. No.	Name	GRI	MKU	MSU	Total
1	Agriculture	7 (2.76)	1 (0.39)	3 (1.18)	11 (4.33)
2	Arts and Humanities	1 (0.39)	0	0	1 (0.39)
3	Astronomy, Astrophysics, Space and Geodesy	0	0	1 (0.39)	1 (0.39)
4	Biological Science	24 (9.45)	8 (3.15)	38 (14.96)	70 (27.56)
5	Biotechnology	6 (2.36)	2 (0.79)	11 (4.33)	19 (7.48)
6	Botany	13 (5.12)	0	14 (5.51)	27 (10.63)
7	Business and Marketing	0	1 (0.39)	3 (1.18)	4 (1.57)
8	Chemistry	20 (7.87)	6 (2.36)	35 (13.78)	61 (24.02)
9	Computer Science and Technology	4 (1.57)	4 (1.57)	13 (5.12)	21 (8.27)
10	Dairying, Dairy, Animals and Animals Produce	3 (1.18)	0	1 (0.39)	4 (1.57)
11	Domestic Science	5 (19.7)	0	0	5 (1.97)
12	Earth and Geological Science	3 (1.18)	0	2 (0.79)	5 (1.97)
13	Education	0	1 (0.39)	0	1 (0.39)
14	Engineering Science and Technology	0	4 (1.57)	0	4 (1.57)
15	Environmental Science	0	7 (2.76)	0	7 (2.76)
16	General Science & Technology	0	13 (5.12)	0	13 (5.12)
	Total	86 (33.86)	47 (18.50)	121 (47.64)	254 (100)

Table 4 shows the top 16 subjects it includes articles published and cited by the authors from Universities in South Tamil Nadu which are available in the Indian Citation Index. As per the sources available in the Indian Citation Index more than 50 articles were published from Biological Sciences and Chemistry subject. But in the other case, less than 10 articles were published from Arts and Humanities/Astronomy, Astrophysics, Space and Geodesy, Business and Marketing / Dairying, Dairy, Animals and Animals Produce / Domestic Science / Earth and Geological Science / Education/ Engineering Science and Technology and Environmental Science subjects.

Table 5
Distribution of Document Type
(Articles Cited)

S. No.	Year	GRI	MKU	MSU	Total
1	Case Study	1 (0.27)	1 (0.27)	1 (0.27)	3 (0.80)
2	Editorial	2 (0.53)	3 (0.80)	3 (0.80)	8 (2.13)
3	Report (R&D)	0	0	1 (0.27)	1 (0.27)
4	Research Article	113 (30.05)	40 (10.64)	189 (50.27)	342 (90.96)
5	Research Method	0	0	1 (0.27)	1 (0.27)
6	Research Note	2 (0.53)	1 (0.27)	2 (0.53)	5 (1.33)
7	Review Article	2 (0.53)	1 (0.27)	3 (0.80)	6 (1.60)
8	Short Communication	2 (0.53)	4 (1.06)	5 (1.33)	11 (2.93)
	Total	122 (32.18)	50 (13.30)	205 (54.52)	377 (100)

The table 5 indicates the distribution of document type based on the articles published by authors from Universities in South Tamil Nadu. It shows 377 articles, which includes 342(90.96%) research Articles, 11(2.93%) in Short communications, 8(2.13%) editorial, 6(1.60%) review articles. It is concluded that the highest articles are from research article type. From Gandhigram Rural Institute among the 122 (32.18%) 113(30.05%) are type of research articles which is available in the Indian Citation Index.

8. MAJOR FINDINGS

- In South Tamil Nadu contains four government Universities such as The Gandhigram Rural Institute Gandhigram, Madurai Kamaraj University, Madurai and Manonmaniam Sundaranar University Tirunelveli and Mother Teresa University for Women, Kodaikanal. As per the data available in the Indian Citation Index there no such papers published from Mother Teresa University.
- During the period 377 articles were published which are indexed in the Indian Citation Index. Among the 377, in the year 2009, 81 (21.49%) articles were published by three universities. But the maximum no

of article, 91 in the year 2011.

- In the year 2009, 8 (17.78%) from Gandhigram Rural Institute, 5(11.11%) from Madurai Kamaraj University and 3(6.67%) from Manonmaniam Sundaranar University citations were identified. The highest no. of citations 16 (35.56%) were identified in the year 2009.
- As per the sources available in the Indian Citation Index more than 50 articles were published from Biological Sciences and Chemistry subject.
- Among the 377 articles, the type of document which includes 342(90.96%) Research Articles, 11(2.93%) in Short communications, 8(2.13%) Editorial, 6(1.60%) review articles.

9. CONCLUSIONS

The Indian Citation Index is increasing the visibility of and access to other library resources. It provides users to search peer-reviewed and highly used contents publish in local national journals. ICI is useful for researchers, administrators, policy makers, editors, librarians and analysts for their respective nature of work. So, the library professionals should make the necessary arrangement to bring out knowledge and utilization Indian Citation Index and its benefits to end user community

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