
MAPPING OF RESEARCH PRODUCTIVITY IN BHARATHIDASAN UNIVERSITY AND MADURAI KAMARAJ UNIVERSITY: A SCIENTOMETRIC STUDY

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Abstract :

This paper is discussed about the mapping of research productivity in Bharathidasan University and Madurai Kamaraj University. This study only focus from 2009 to 2013 on the data available in Indian Citation Index. As per the sources available in the Indian Citation Index 511 article were published which includes in the year 2004, 37 (7.24%) articles were published by two universities. But the maximum no of article, 69(13.50%) in the year 2013. Among the 511, 378(73.97%) articles from Bharathidasan University and 133(26.03%) articles from Madurai Kamaraj University. It is pointed out that highest no. of articles published by Bharathidasan University

KEYWORDS :

Year wise Productivity; Top Authors; Citation Analysis; Document Type.

1. INTRODUCTION

An international level few tools/databases are available but coverage of Indian knowledge contents particularly published in local national journals are negligible. India is contributing good amount of knowledge but there is no tool for evaluation and measurement of its knowledge. If you can measure that of which you speak, and can express it by a number, you know something of your subject; but if you cannot measure it, your knowledge is meager and unsatisfactory." William Thomson, Lord Kelvin. India is a huge part of the global society, has long and distinguished history as country, possess capability and vital resource to influence, mark presence on the emerging universe of knowledge. Therefore, these tools/databases are not adequate to evaluate/ analyze India's knowledge contents.

INDIAN CITATION INDEX (ICI)

ICI database is a powerful tool that let you search, track, measure and collaborate in the sciences, social sciences, arts, and humanities to turns raw data/information into the powerful knowledge you need. Indian Citation Index (ICI) database is an abstracts and citation database intended to measure and perform two basic functions, general literature search and evaluation using citations similar to international databases. A database in general is a collection of information that is organized so that it can easily be accessed for various purposes, managed, and updated regularly. Citations symbolize the association of R&D ideas. The references that researchers cite in their papers make explicit links between their current research and prior work in the literature archive. Indian Citation Index (ICI) use intellectual links by listing both cited and citing works

REVIEW OF LITERATURE

Krampen, Eye and Schui (2011) studied bibliometric data on psychology publications from 1977 through 2008 are modelled and forecasted for the 10 years following 2008. Kumar Suchetan and et. al. (2012) Bibliometric method is most

often used in the field of library and information science; as well it has an equal applicability in other areas also. In fact, in many research fields use of bibliometric methods is carried out to explore the impact of their field, the impact of a set of researchers, or the impact of a particular paper etc. Bibliometrics are now used in quantitative research assessment exercises of academic output. Dhanavandan and Tamizhchelvan (2014) studied the research articles published and its citation from Universities in South Tamil Nadu. During period from 2009 to 2013, 377 articles were published which include, in the year 2009, 81 (21.49%) articles were published by three universities and 45 citations were identified from Indian Citation Index.

SCOPE OF THE STUDY

The aim the study is to analysis the mapping of the research productivity in Bharathidasan University and Madurai Kamaraj University. Remaining universities in Chennai will not be taken for this study. This two universities is started by the Government of Tamil Nadu and it has more no.of faculty members and students when comparing other universities. It is discussed about the research articles produced by the authors and citations.

OBJECTIVES OF THE STUDY

Based on the sources the framed objectives are;

- 1.To identify the year wise publication of article.
- 2.To find out the common journal articles published
- 3.To assess the year wise citation and Cited Articles
- 4.To classify the Document type

METHODOLOGY

Scieintometric study is the examination of the frequency, patterns, and graphs of citations in articles and books. This study is aimed to discuss the mapping of the research productivity in Bharathidasan University and Madurai Kamaraj University. The relevant sources and data are collected from Indian Citation Index. Based on the available sources the following discussions were made.

Table 1: Year wise Distribution of Articles

Sl.No.	Year	Bharathidasan University(BU)	%	Madurai Kamaraj University(MKU)	%	Total	%
1	2004	25	4.89	12	2.35	37	7.24
2	2005	41	8.02	18	3.52	59	11.55
3	2006	28	5.48	16	3.13	44	8.61
4	2007	29	5.68	16	3.13	45	8.81
5	2008	29	5.68	11	2.15	40	7.83
6	2009	41	8.02	14	2.74	55	10.76
7	2010	57	11.15	12	2.35	69	13.50
8	2011	52	10.18	10	1.96	62	12.13
9	2012	40	7.83	14	2.74	54	10.57
10	2013	36	7.05	10	1.96	46	9.00
	Total	378	73.97	133	26.03	511	100.00

Table 1 indicates the year wise distribution of articles published by the various authors from Bharathidasan University and Madurai Kamaraj University. During the period (2004-2013) 511 articles were published which are indexed in Indian Citation Index. Among the 511, in the year 2004, 37 (7.24%) articles were published by two universities. But the maximum no of article, 69(13.50%) in the year 2013. Among the 511, 378(73.97%) articles from Bharathidasan University and 133(26.03%) articles from Madurai Kamaraj University. It is pointed out that highest no. of articles published by Bhrathidasan University

Table 2: Year wise Distribution of Citations

Sl.No.	Year	Bharathidasan University(BU)	%	Madurai Kamaraj University(MKU)	%	Total	%
1	2004	24	9.72	5	2.02	29	11.74
2	2005	40	16.19	8	3.24	48	19.43
3	2006	11	4.45	1	0.40	12	4.86
4	2007	47	19.03	11	4.45	58	23.48
5	2008	18	7.29	1	0.40	19	7.69
6	2009	16	6.48	9	3.64	25	10.12
7	2010	27	10.93	1	0.40	28	11.34
8	2011	20	8.10	2	0.81	22	8.91
9	2012	4	1.62	0	0.00	4	1.62
10	2013	2	0.81	0	0.00	2	0.81
	Total	209	84.62	38	15.38	247	100.00

Table 2 indicates the year wise distribution of article citation by various authors from Bharathidasan University and Madurai Kamaraj University. It is considered the years from 2009 to 2013. During the period 247 citations were identified from Indian Citation Index. Among the 247, 209(84.62%) from Bharathidasan University and 38(15.38%) from Madurai Kamaraj University citations were identified. In the year 2007, 58 citations were identified which includes 47 (19.03%) citations from Bharathidasan University and 11(4.45%) from Madurai Kamaraj University.

Table 3: Year wise Distribution of Cited Articles

Sl.No.	Year	Bharathidasan University(BU)	%	Madurai Kamaraj University(MKU)	%	Total	%
1	2004	9	8.65	4	3.85	13	12.50
2	2005	14	13.46	4	3.85	18	17.31
3	2006	8	7.69	1	0.96	9	8.65
4	2007	10	9.62	6	5.77	16	15.38
5	2008	7	6.73	1	0.96	8	7.69
6	2009	9	8.65	5	4.81	14	13.46
7	2010	9	8.65	1	0.96	10	9.62
8	2011	8	7.69	2	1.92	10	9.62
9	2012	4	3.85	0	0.00	4	3.85
10	2013	2	1.92	0	0.00	2	1.92
		80	76.92	24	23.08	104	100.00

Table 3 states the year wise distribution of various cited article from Bharathidasan University and Madurai Kamaraj University. From the year 2009 to 2013 nearly 104 cited articles were identified from Indian Citation Index. Among the 104, 80(76.92%) cited articles from Bharathidasan University and 24(23.08%) from Madurai Kamaraj University. Among 104 cited articles, 13(12.50%) articles from 2004, 18(17.31%) cited articles from 2005, 9(8.65%) cited articles form 2006, 16(15.38%) cited articles from 2007, 14(13.46%) articles from 2009 and 10(9.62%) cited articles from 2010 & 2011 were identified. It is clearly shows Bharathidasan university has the highest no.of cited articles.

Table 4: Year wise Distribution of Articles Cited Density

Sl. No.	Year	Bharathidasan University(BU)	Madurai Kamaraj University(MKU)	Total
1	2004	0.36	0.417	0.777
2	2005	0.341	0.444	0.785
3	2006	0.286	0.063	0.349
4	2007	0.345	0.688	1.033
5	2008	0.241	0.091	0.332
6	2009	0.22	0.643	0.863
7	2010	0.158	0.083	0.241
8	2011	0.154	0.2	0.354
9	2012	0.1	0	0.1
10	2013	0.056	0	0.056
	Total	2.261	2.629	4.89

The 4 shows the article cited density by Bharathidasan University and Madurai Kamaraj University for period of 2004 to 2013. Nearly 4.89 article cited density were received, Which includes 2.261 from Bhrathidasan University and 2.2629 from Madurai Kamaraj University.

Table 5: Author wise Distribution Articles and Citations

Sl.No.	Bharathidasan University (BU)			Madurai Kamaraj University (MKU)		
	Author	Articles	Citation	Author	Articles	Citation
1	Thajuddin N	21	6	Srinivasan C	25	31
2	Thirunalasundari T	9	1	Saraswathi R	16	11
3	Subramanian P	5	0	Muthusubramanian Shanmugam	12	1
4	Archunan G	5	0	Sekar P C	12	15
5	Geraldine P	5	0	Natarajan S	12	12
6	Panneerselvam A	5	1	Arumugam G	11	1
7	Kaliammal A	4	7	Pandi A Pal	10	6
8	Jayabalan N	4	7	Rao U Surya	9	6
9	Nandagopalan V	4	0	Saravanan Sivaperuman	9	1
10	Ponnuswamy S	3	5	Thambavani D Sarala	8	0
11	Rajan S	3	0	Renuga G	8	11
12	Jeyaraman R	3	0	Prakash S	8	0
13	Amutha C	3	0	Alagar M	7	0
14	Rajagopal T	3	0	Arivarignan G	7	13
15	Rao A S	3	4	Krishnan N	7	2
		161	110		80	31

The table 5 shows the author wise distribution of the articles published and citations are available in the Indian Citation Index from Bharathidasan University and Madurai Kamaraj University. Only we consider in the top fifteen authors. In the Bharathidasan University, 161 Articles and 110 citations were identified among top 15 authors. Among the top 15, N.Thajuddin occupied the first position with 21 articles and 6 citations and Thirunalasundari T is in the second position with 9 articles and 1 citations (Ranked by Articles only). From the Madurai Kamaraj 80 articles and 31 citations were identified among top 15 authors. Among the top 15, C.Srinivasan occupied the first position with 25 articles and 31 citations and R.Saraswathi is in the second position with 16 articles and 11 citations (Ranked by Articles only). Nearly seven authors they have published more than 10 articles among the top 15 authors.

Table 6: Subject wise Distribution Articles and Citations

Sl. No.	Subject Category	Bharathidasan University (BU)		Madurai Kamaraj University (MKU)	
		Article	Citations	Article	Citations
1	Biological Science	151	90	21	5
2	Environmental Science	64	67	14	2
3	Pharmacology And Pharmace. & Health Science	53	23	6	1
4	chemistry	48	14	16	4
5	biotechnology	42	3	5	0
6	General Science & Technology	40	39	6	1
7	Health Science	31	5	6	1
8	Earth And Geological Science	22	17	28	11
9	Library And Information Science	20	7	16	5
10	Social Science	17	2	8	4
11	Engineering Science And Technology	12	0	90	1
12	Physics	8	7	6	1
	Total	508	274	222	36

Table 6 shows the top 10 subjects it includes various articles published by the authors from Bharathidasan University and Madurai Kamaraj University which are available in the Indian Citation Index. As per the sources available in the Indian Citation Index more than 172 articles were published from Biological Science subject which includes 151

(10.99%) from Bharathidasan University and 21 (20.68%) from Madurai Kamaraj University. Among the top 10 subject Bharathidasan University has produced 508 article and 274 citations.

Table 7: Distribution of Top 15 Journals

Sl.No.	Name	Bharathidasan University (BU)	Madurai Kamaraj University (MKU)
1	Asian Journal Of Microbiology Biotechnology & Environmental Sciences	4	0
2	Biomedicine	12	0
3	Biosciences, Biotechnology Research Asia	8	0
4	Current Science	9	12
5	Far East Journal of Mathematical Sciences (Fjms)	7	0
6	Indian Journal of Marketing	0	3
7	International Journal of Engineering Science and Technology	0	2
8	International Journal of Human Genetics	0	2
9	International Journal on Computer Science and Engineering	0	3
10	International Journal on Environmental Sciences	0	2
11	Journal Of Chemical Science	0	2
12	Journal Of Ecobiology	6	0
13	Journal Of Ecotoxicology & Environmental Monitoring	6	2
14	Journal Of Environmental Biology	11	2
15	Journal Of Pharmacy Research	17	0

The data presented in the table 7 shows the top 15 journals that are articles published and cited by authors in Bharathidasan University and Madurai Kamaraj University. Among the top 15 Journals, three journals were identified top in the common in all institutions. They are Current Science, Journal of Ecotoxicology & Environmental Monitoring and Journal of Pharmacy Research with more no.of articles.

Table 8: Distribution of Top 15 Journals

Sl. No.	Document Type	Bharathidasan University (BU)		Madurai Kamaraj University (MKU)		Total	
		Articles	Citations	Articles	Citations	Articles	Citations
1	Research article	335	182	113	29	448	211
2	Editorial	17	10	4	0	21	10
3	Short communication	16	14	14	5	30	19
4	Review article	8	2	4	1	12	3
5	Special article	3	0	0	0	3	0
6	Case study	4	0	1	3	5	3
7	Research note	3	1	3	0	6	1
	Total	386	209	139	38	525	247

The table 8 indicates the distribution of document type based on the articles published authors from Bharathidasan University and Madurai Kamaraj University. It shows among the 525 articles, which includes 448 Research Articles, 30 articles from short communication, 12 article from Review Article and 21article from Editorial type. From Bharathidasan University 386 article were identified from Indian Citation Index. Among 386, which includes 335 Research Articles type, 16 short communication type and 17 from Editorial.

FINDINGS & CONCLUSION

During the period (2004-2013) 511 articles were published which are indexed in Indian Citation Index. Among the 511, in the year 2004, 37 (7.24%) articles were published by two universities.

The 247 citations were identified which includes 209(84.62%) from Bharathidasan University and 38(15.38%) from Madurai Kamaraj University.

Among 104 cited articles, 13(12.50%) articles from 2004, 18(17.31%) cited articles from 2005, 9(8.65%) cited articles form 2006, 16(15.38%) cited articles from 2007.

Among the 525 articles, which includes 448 Research Articles, 30 articles from short communication, 12 article from Review Article and 21 article from Editorial type.

ICI is useful for researchers, administrators, policy makers, editors, librarians and analysts for their respective nature of work.

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