Citation Analysis of Agricultural Universities in India

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Abstract

This paper is discusses about the published research articles and its citation from top five ranked (based on number of articles published) Agricultural universities in India. During the period from 2004 to 2014, the maximum no of articles 1601are published in the year 2006. Among the 14938, 4464(29.87%) articles from PAU, 3616(24.21%) articles from TNAU, 3123(20.90%) articles from CCSHAU,1972(13.20%)articles from UAS and 1765(11.82%) from ANGRAU. It clearly shows the authors from PAU are more concentrating on Indian journals

Keywords

Indian Citation Index; Year wise Productivity; Citation Analysis; Agricultural University.

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INTRODUCTION

India is contributing good amount of knowledge but there is no tool for evaluation and measurement of its knowledge. At international level few tools/databases are available but coverage of Indian knowledge contents particularly published in local national journals are negligible. 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. To resolve similar limitation, few countries, like China, Korea, Japan etc. have already brought out their own citation indexes. With a view to address this long felt need have developed and brought out multidisciplinary Indian Citation Index (ICI) by scanning -1000 journals of Indian origin.

INDIAN CITATION INDEX (ICI)

Indian Citation Index (ICI) is a home grown abstracts and citation database, with multidisciplinary objective information/knowledge contents from about 1000 top Indian scholarly journals. It provides powerful search engine basically to perform search and evaluation for researchers, policy makers, decision makers etc. 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. Indian Citation Index (ICI) use intellectual links by listing both cited and citing works. Like other indexes, this enables one to move back in time to previously published papers. But uniquely one can also look forward in time to determine who has subsequently cited an earlier piece of research. ICI is the abbreviation of "Indian Citation Index "(ICI). It is a multidisciplinary abstract and citation database of journals publish from India. ICI is useful for researchers, administrators, policy makers, editors, librarians and analysts for their respective nature of work.

REVIEW OF LITERATURE

Nicholas and Ritchie[1] in their books entitled "Literature on Bibliometrics" opined that bibliometrics provided information about the structure of knowledge and how it is communicated? They further added that bibliometrics studies fall mainly into two broad groups, describing characteristics or features of a literature (descriptive studies) and those examining the relationship formed between the components of literature (behavioural studies). More recently, Plotter[2] had defined bibliometrics as "The study and measurement of the publication patterns of all forms of written communication and their authorship". Some of the recent study on bibliometric study has been reviewed. Mooghali[3] et al using bibliographic records from the Social Science Citation Index, Science Citation Index, and Arts and Humanities Citation Index, tried to give a complete view of the evolution of the field of Scientometrics based on its literature published during 1980 to 2009.This is a descriptive survey using scientometric indicators .Karpagam [4] et al. analysed the growth pattern of Nanoscience and Nanotechnology literature in India during 1990-2009 (20 years). The Scopus international multi-disciplinary bibliographical database has been used to identify the Indian contributions on the field of Nano science and nanotechnology Abramo[5] made the study on the development of bibliometric techniques to suggest their integration or total substitution for classic peer review in the national research assessment exercises, as far as the hard sciences are concerned. They compare rankings lists of universities captured by the first Italian evaluation exercise, through peer review, with the results of bibliometric simulations. The comparison shows the great differences between peer review and bibliometric rankings for excellence and productivity Lapon-Kandeishein and Prebor[6] presented the state of bibliographical research in the discipline of Hebrew printing during a 30-year period, ranging from the latter quarter of the twentieth century until the beginning of the third millennium (1976-2006) Krampen, Eye and Schui[7] studied bibliometric data on psychology publications from 1977 through 2008 are modeled and forecasted for the 10 years following 2008 Kumar Suchetan[8] and et. al. **S**. Dhanavandan and M. Tamizhchelvan[9] studied Research Productivity and Citations of Universities in South Tamil Nadu From 2009 To 2013 A Study Based Indian Citation Index (ICI).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.

SCOPE OF THE STUDY

The main aim of the study is to analysis the research output and its citation by the authors from Agricultural universities in India. It is discussed about the research articles produced by the authors and also shows the citation and cited articles.

OBJECTIVES OF THE STUDY

Based on the sources the framed objectives are;

1. To identify the year wise publication of articles in ICI.
2. To know the year wise distribution citations.
3. To know the year wise distribution of cited articles.
4. To identify the subject by highly cited.
5. To classify the document type.

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 about the analysis of the citation index of the research output by faculty members of Agricultural universities. The relevant sources and data are collected from Indian Citation Index. Based on the available sources the following discussions were made.

ANALYSIS AND INTERPRETATION

The distributions of the research publication productivity and the contributions by the various authors from Agricultural universities in India. The relevant data were collected and that is available in the Indian Citation Index, were analyzed in the table.

In this study denotes

PAU- Punjab Agricultural University
TNAU- Tamil Nadu Agricultural University
CCSHAU- Chaudhary Charansingh Haryana Agricultural University
UAS- University of Agricultural Sciences Bangalore
ANGRAU- Acharya N.G. Ranga Agricultural University

YEAR WISE DISTRIBUTION OF ARTICLES

Table 1 : Year wise Distribution of Articles

S.No.	Year	PAU	TNAU	CCSHAU	UAS	ANGRAU	TOTAL	%
1	**2004**	432	310	384	125	170	**1421**	**9.51**
2	**2005**	475	375	405	131	159	**1545**	**10.34**
3	**2006**	523	368	384	155	171	**1601**	**10.72**
4	**2007**	463	347	378	164	146	**1498**	**10.03**
5	**2008**	454	363	277	147	162	**1403**	**9.39**
6	**2009**	387	321	228	169	136	**1241**	**8.31**
7	**2010**	378	363	243	213	167	**1364**	**9.13**
8	**2011**	335	257	169	213	160	**1134**	**7.59**
9	**2012**	372	266	174	168	177	**1157**	**7.75**
10	**2013**	305	241	232	265	186	**1229**	**8.23**
11	**2014**	338	405	249	222	131	**1345**	**9.00**
	TOTAL	**4462**	**3616**	**3123**	**1972**	**1765**	**14938**	**100**
	%	**29.87**	**24.21**	**20.90**	**13.20**	**11.82**	**100**	

Table 1 indicates the year wise distribution of articles published by the various authors from Agricultural universities in India. It is considered for the last 11 years i.e. 2004 to 2014. During the period 14938 articles were published which are indexed in Indian Citation Index. Among the 14938, in the year 2004, 1421(9.51%) articles were published by five Agricultural universities. But the maximum number of articles, 1601(10.72%) published in the year 2006. Among the 14938, 4462(29.87%) articles from PAU, 3616(24.21%) articles from TNAU and 3123(20.90%) from CCSHAU. It clearly shows the authors from PAU are published more articles 4462(29.87%) during the period of study.

Table 2: Year Wise Distribution of Citations

S.NO	Year	PAU	TNAU	CCSHAU	UAS	ANGRAU	TOTAL	%
1	**2004**	493	309	469	170	180	1621	17.43
2	**2005**	486	339	368	166	229	1588	17.08
3	**2006**	511	396	301	102	131	1441	15.50
4	**2007**	458	306	291	116	119	1290	13.88
5	**2008**	376	258	198	80	145	1057	11.37
6	**2009**	224	189	180	86	97	776	8.35
7	**2010**	183	212	154	77	119	745	8.01
8	**2011**	111	108	56	54	63	392	4.22
9	**2012**	105	44	42	20	47	258	2.78
10	**2013**	30	13	12	20	14	89	0.96
11	**2014**	22	3	9	5	0	39	0.42
	TOTAL	**2999**	**2177**	**2080**	**896**	**1144**	**9296**	**100**
	%	**32.26**	**23.40**	**22.38**	**9.64**	**12.31**	**100**	

Table 2 states the year wise distribution of citations from Agricultural universities in India. From the year 2004 to 2014 nearly 9296 citations were identified from Indian Citation Index. Among the9296, maximum of 1621(17.43%) citations from 2004, the minimum number of 39(0.42%) citations from 2014. It is clearly shows from the year 2004 onwards the citation is in the decreasing order

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Table 3: Year Wise Distribution of Cited Articles

S.No.	Year	PAU	TNAU	CCSHAU	UAS	ANGRAU	TOTAL	%
1	2004	182	115	167	58	61	583	14.45
2	2005	196	146	158	50	70	620	15.37
3	2006	186	138	133	48	56	561	13.91
4	2007	177	128	137	53	49	544	13.49

5	2008	155	116	88	39	55	453	11.23
6	2009	109	100	72	46	43	370	9.17
7	2010	105	106	66	47	54	378	9.37
8	2011	67	63	38	30	41	239	5.92
9	2012	66	36	28	17	26	173	4.29
10	2013	25	12	12	19	12	80	1.98
11	2014	20	3	5	5	0	33	0.82
	TOTAL	1288	963	904	412	467	4034	100
	%	31.93	23.87	22.41	10.21	11.58	100	

The above table states the year wise distribution of various cited articles from Agricultural universities in India. From the year 2004 to 2014 nearly 4034 cited articles were identified from Indian Citation Index. Among the 4034 the maximum number of 620(15.37%) cited articles from 2005, the minimum number of 33(0.82%)cited articles form 2014, It is clearly shows from the year 2005 onwards the cited articles is in the decreasing order.

Table4: Subject wise distribution of Cited articles

S.No	Name	PAU	TNAU	CCSHAU	UAS	ANGRAU	TOTAL	%
1	Agriculture	2213	2208	1808	726	1172	8127	56.53
2	Anthropology	10	0	3	0	1	14	0.10
3	Apiculture	12	2	2	18	0	34	0.24
4	Biological Science	921	794	804	796	174	3489	24.27
5	Bio -technology	45	64	33	41	17	200	1.39
6	Botany	408	649	236	252	276	1821	12.67
7	Business & Marketing	32	15	5	5	4	61	0.42
8	Chemistry	107	34	41	20	17	219	1.52
9	Computer science &Technology	0	1	1	1	0	3	0.02
10	Dairying, Dairy, Animals & Animals Produce	93	4	140	12	39	288	2.01
11	Domestic science	49	9	0	40	9	107	0.74
12	Earth & Geological science	0	0	0	0	13	13	0.09
	Total	3890	3780	3073	1911	1722	14376	100
	%	27.06	26.29	21.38	13.29	11.98	100	

The above Table shows the 12 subjects it includes various articles published and cited by the authors from Agricultural universities in India. Which are available in the Indian Citation Index. As per the sources available in the Indian Citation Index number of 8127(56.53%) articles are published in Agriculture subject followed by the subject Biological science 3489(24.27%) articles are published.

Table 5: Distribution of Document Type (Articles Cited)

S. No.	Document	PAU	TNAU	CCSHAU	UAS	ANGRAU	TOTAL	%
1	Case Study	15	6	6	7	5	39	0.26
2	Editorial	20	21	29	39	20	129	0.87
3	Observation(R&D)	1	0	0	0	0	1	0.01
4	Opinion paper	0	0	0	5	0	5	0.03
5	Proceedings Paper	1	4	1	1	3	10	0.06
6	Report (R&D)	2	0	1	0	1	4	0.03
7	Research Article	3842	3058	2709	1720	1456	12785	86.04
8	Research Method	0	2	0	1	0	3	0.02
9	Research Note	211	198	43	61	129	642	4.32

10	Review Article	61	83	44	24	12	224	1.51
11	Short Communication	288	225	265	104	135	1017	6.84
12	Special Article	0	0	0	1	0	1	0.01
	Total	4441	3597	3098	1963	1761	14860	100
	%	29.88	24.21	20.85	13.21	11.85	100	

The above table indicates the distribution of document type based on the articles published from authors from Agricultural universities in India. It shows 14860 articles, which includes 12785(86.04%) Research Articles, Short communication 1017(6.84%) articles and Research Note 642(4.32%). The highest number of articles is from research article type.

CONCLUSION

Indian Citation Index is increase 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 are make the necessary arrangement to bring out knowledge and utilization Indian Citation Index and its benefits to end user community.The maximum number of articles 1601(10.72%) published in the year 2006, among the 14938, 4462(29.87%) articles from PAU, 3616(24.21%) articles from TNAU and 3123(20.90%) from CCSHAU. It clearly shows the authors from PAU are published more articles 4462(29.87%) during the period of study. From the year 2004 to 2014 nearly 9296citations were identified and maximum citations from 2004 with 1621(17.43%), the minimum number of 39(0.42%) citations from 2014. It is clearly shows from the year 2004 the citation is in the decreasing order. During the period of study 4034 cited articles were identified from Indian Citation Index. The maximum number of 620(15.37%) cited articles from 2005, the minimum number of 33(0.82%)cited articles form 2014, It shows that the year 2005 onwards the cited articles rate is in the decreasing order. As per the sources available in the Indian Citation Index 8127(56.53%) articles are published in Agriculture subject followed by the subject Biological science 3489(24.27%) articles are published .The distribution of document type based on the articles published by authors from Agricultural universities India. It shows 14860 articles, which includes 12785(86.04%) ResearchArticles, Short communication 1017(6.84%) and Research Note 642(4.32%). The highest articles are from research article type.

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