Bibliometric Analysis of the Journal Webology from 2004-2013

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Abstract

This paper examines that bibliometric analysis of 158 papers published in the journal "Webology" during the period 2004-2013. The data was taken from the archives of the journal through online. The study focuses on various aspects of the journal such as growth of papers in year-wise, authorship pattern, degree of collaboration, length of paper, document types, subject wise distribution of papers, ranking of contributors have also been analyzed. The study also analysed that Webology is the most preferred subject which produces more number of papers (26.58%) while the single authorship also possess a lead role in this subject (60.13%). Alireza Noruzi is most prolific author (18) in the present study. The analysis shows that majority (22.03 %) of the contributions were Indians.

Keywords

Bibliometrics, Webology, Degree of collaboration, Geographical distribution and Authorship Pattern.

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INTRODUCTION

Bibliometric study is regarded as one of the crucial areas of research in the field of Library and Information Science. Research publications are the embodiments of the intellectual thought contents expressed in published literature whose key objective is to transmit innovative ideas or information to any specific field of knowledge towards the further development of a subject or a discipline. Moreover, bibliometrics study is used as an instrument in the collection building policy by providing the precise and much needed information to the managers to take the right decision in right time as to what documents they should select and what documents they should discard from the existing collections of their respective libraries. Single journal bibliometric studies helps to identify the research trends of a particular field of research i.e. year wise distribution of papers, authorship pattern and the trends of research collaboration, subject wise distribution of contribution, most prolific authors and rank of journals etc. The present study attempts to measure the publication of a journal namely, Webology from 2004 to 2013.

ABOUT WEBOLOGY JOURNAL

Webology is an international peer-reviewed journal in English devoted to the field of the World Wide Web and serves as a forum for discussion and experimentation. It serves as a forum for new research in information dissemination and communication processes in general, and in the context of the World Wide Web in particular. Concerns include the production, gathering, recording, processing, storing, representing, sharing, transmitting, retrieving, distribution, and dissemination of information, as well as its social and cultural impacts.

RELATED WORKS

Recently surveyed on single journal bibliometric studies was conducted by Santhanakarthikeyan, Grace and Jeyshankar (2014) were studied the Indian journal of cancer and they were analysed 611 papers, 98.77 % of the papers were multi-authored. Out of 22 countries contributed 244 research papers during the study period. Of the 244 articles, 168 (68.85 per cent) were published from India. In another study conducted by Gudodagi (2014) analysed highest number of research papers (14.27%) was published in the year 2009. The study revealed collaborative

research is high (45.36%) most of the research papers contributed by Indians.

A bibliometric study done by Velmurugan (2013) analysed the annals of library and information studies publications output during 2007- 2012. It was observed from the study that the highest number of contributions i.e., 43 (21.19%) were published in the year 2010. Most of the contributions 88 (43.35 %) were found double authored.Jena, Swain and Sahu (2012) in their bibliometric study of The Electronic Library from 2003 to 2009 revealed some interesting bibliometric traits of this journal. Taking the above mentioned literature into context, the present study aims to provide some value addition to the corpus of literature on bibliometric studies. Akhtar Hussain and Fatima (2011) indicated that 44 articles (70.97%) were from authors affiliated with Academic/Research Institutes followed by Special Library with 7(11.29%). Only two articles (3.23%) were contributed from authors affiliated with Government Departments. Thanuskodi (2011) studied that out of 138 articles single author contributed 72 (52.17%) articles and most of the contributions are from India with 89.85 % and the rest 10.15 % only from foreign sources.

Swain (2011) did a Scientometric analysis of Library Philosophy and Practice from 2004 to 2009 and found that the degree of collaboration in LPP ranged from 0.222 to 0.52. The highest numbers of contributors hailed from Nigeria, followed by USA, India, and Iran. The study done by Rajendran, Jeyshankar and Elango (2011) examined that the author productivity is 0.34 and the average number of authors per paper is 2.95 and the study also analysed majority (72.99%) of the contributions are by Indian authors. In another study done by Thanuskodi (2010) showed that out of 138 articles single author contributed 72 (52.17%) articles while the rest 66 (47.83%) articles were contributed by joint authors. The study reveals that most of the contributions are from India with 89.85 % and the rest 10.15 % only from foreign sources. Verma, Tamrakar and Sharma (2007) revealed that the majority of articles in journals published in India have two authors and that the majority of the contributions are from New Delhi.

Young (2006) reported a study based on Library Quarterly (*LQ*) to identify total publications; rank list of authors; most frequently cited *LQ* authors and article in *WoS*. Tiew (2000) showed that 53% of journal articles contained self-citations and that there was a tendency for authors affiliated to the institution that published the journal to cite the journal.

OBJECTIVES OF THE STUDY

1. To study the year wise distribution of papers.
2. To study the authorship pattern.
3. To study the bibliographical forms of documents
4. To study the subject wise distribution of the papers
5. To study the most prolific authors

METHODS AND TECHNIQUES

The methodology applied in the present study is bibliometric analysis which is used to detail of the articles published in the journal of *Webology during* period 2004 -2013. One hundred and fifty eight articles in 28 issues of the journal have been taken for the study. The authors have taken out the information from journal website (http://www.webology.org) and were scanned and tabulated using MS-Excel. The collected data were then analyzed to find out the result.

ANALYSIS OF DATA

Table 1 depicts that the numbers differ from year to year and there is also steadily increase in the number of articles from the year 2004 to 2013. Out of 158 articles, the maximum numbers of articles are contributing 29 articles in the year of 2008, which is 18.35% to the total publications. The minimum numbers of articles contributed in the year 2010 with 9 articles, which is 5.70% to the total publications.

Table 1: Year-wise distribution of Articles

Year	Vol. No	No. of Articles in Issue-wise				Total Articles	%
		1	2	3	4		
2004	1	4	7	0	0	11	6.96
2005	2	4	5	4	5	18	11.39
2006	3	5	4	5	7	21	13.29

2007	4	6	5	5	8	24	15.19
2008	5	7	8	5	9	29	18.35
2009	6	5	5	0	0	10	6.33
2010	7	5	4	0	0	9	5.70
2011	8	6	5	0	0	11	6.96
2012	9	5	7	0	0	12	7.59
2013	10	7	6	0	0	13	8.23
Total		**54**	**56**	**19**	**29**	**158**	**100**

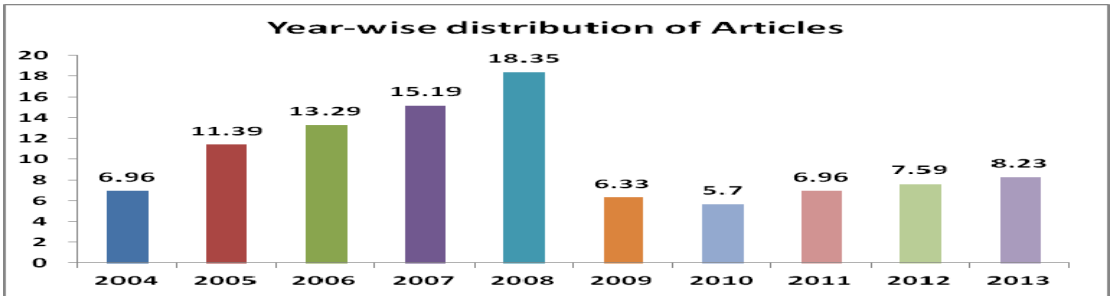


Figure 1: Year-wise distribution of Articles

Forms of Publication

It is evident that journal is the most preferred medium of all the forms. The largest number of the journal indicates a continued trend of relying primarily on this form of publications. Table 2 shows that the forms of publication during the period of ten years. It is shown in the table 72.15% (114) are the Articles, followed by editorials 13.29% (21) and 14.56% (23) book reviews respectively.

Table 2: Forms of Publication in Year-wise

Forms	**Years**										**Total Articles**	**%**
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**		
Articles	8	13	14	14	16	7	9	11	10	12	114	72.15
Editorials	2	4	4	4	4	3	0	0	0	0	21	13.29
Book Reviews	1	1	3	6	9	0	0	0	2	1	23	14.56
Total	**11**	**18**	**21**	**24**	**29**	**10**	**9**	**11**	**12**	**13**	**158**	**100**

Subject-wise Classification

It is observed from the table 3, majority of the contributions appeared under Webometrics 42 (26.58%) followed by Social Media 25 (15.82%), Electronic Resources 22 (13.92 %), Internet 19 (12.03%), User studies 15 (9.49 %), Library services 12 (7.59%), Search engines 10 (6.33%) and Institutional Repositories 7 (4.43%).

Table 3: Subject-wise Classification of Articles

Subjects	**Years**										**Total Articles**	**%**
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**		
Webometrics	7	5	8	3	5	3	3	4	1	3	**42**	**26.58**
Social Media	0	2	2	2	4	0	3	3	4	5	**25**	**15.82**
Electronic Resources	1	2	0	4	6	4	0	2	2	1	**22**	**13.92**
Internet	0	2	3	4	3	3	1	1	2	0	**19**	**12.03**

User Studies	0	3	3	2	3	0	1	1	1	1	**15**	**9.49**
Library Services	1	1	0	3	6	0	0	0	0	1	**12**	**7.59**
Search Engines	2	3	2	3	0	0		0	0	0	**10**	**6.33**
Institutional Repositories	0	0	3	2	0	0	0	0	0	2	**7**	**4.43**
Citation Analysis	0	0	0	1	2	0	1	0	2	0	**6**	**3.80**
Total	**11**	**18**	**21**	**24**	**29**	**10**	**9**	**11**	**12**	**13**	**158**	**100**

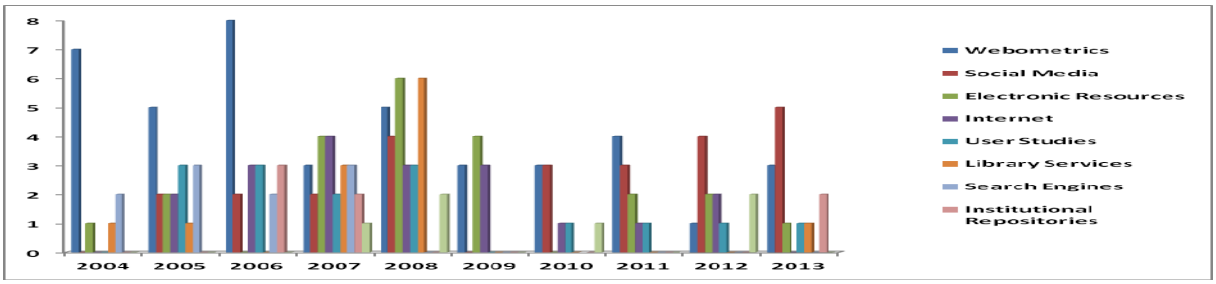


Figure 2: subject-wise classification of articles

Authorship Pattern

In the 21st century, collaborative research is very much a feature particularly in the field of library and information Science. Table 4 discussed the authorship pattern of articles during the period under study. It reveals that maximum 60.13% articles have been written by single authors, followed by 25.95% by two authors and 13.92% by three or more authors. It is also observed from the table that the number of articles has been decreasing as we proceed from articles written by single authors to those written by three authors.

Table 4: Year-wise Authorship Pattern

Authors	**Years**										**Total**	**%**
Single	9	9	12	19	22	6	3	4	7	4	95	**60.13**
Double	2	6	4	2	6	4	5	3	3	6	41	**25.95**
Multiple	0	3	5	3	1	0	1	4	2	3	22	**13.92**
Total	**11**	**18**	**21**	**24**	**29**	**10**	**9**	**11**	**12**	**13**	**158**	**100**

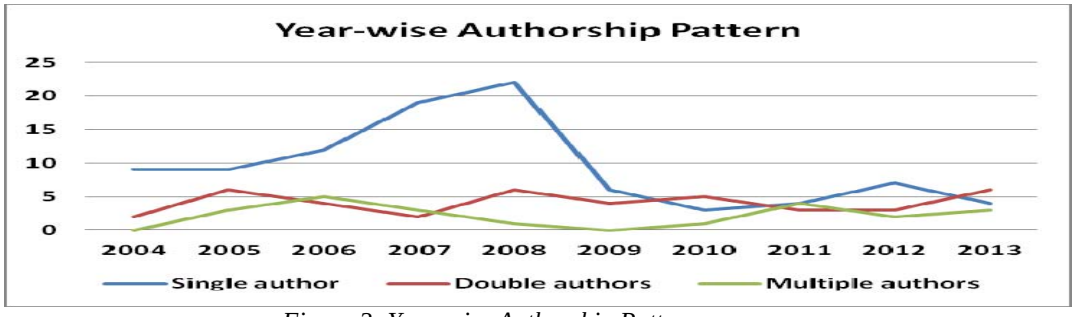


Figure 3: Year-wise Authorship Pattern

Degree of Collaboration

In order to determine the strenth of Collaboration (DC), the following formula Suggested by Subramanyam (1984) has been employed.

$$DC = \frac{Nm}{Nm + Ns}$$

C= degree of collaboration
Nm= number of multi authored papers
Ns= number of single authored papers

Where,

Table 5: Degree of Collaboration

Sl. No	Year	Single Authored (NS)	Multiple Authored (NM)	Total (NS+NM)	Degree of Collaboration
1	2004	9	2	11	0.18
2	2005	9	9	18	0.50
3	2006	12	9	21	0.43
4	2007	19	5	24	0.21
5	2008	22	7	29	0.24
6	2009	6	4	10	0.40
7	2010	3	6	9	0.67
8	2011	4	7	11	0.64
9	2012	7	5	12	0.42
10	2013	4	9	13	0.69
Total		**95**	**63**	**158**	**0.44 (Mean value)**

The degree of collaboration in different years calculated as per the equation proposed by Subramanyam is presented in Table 5. The degree of collaboration over the years from 2004-2013 is calculated and it varies from 0.182 to 0.693. The mean value is found to be 0.44

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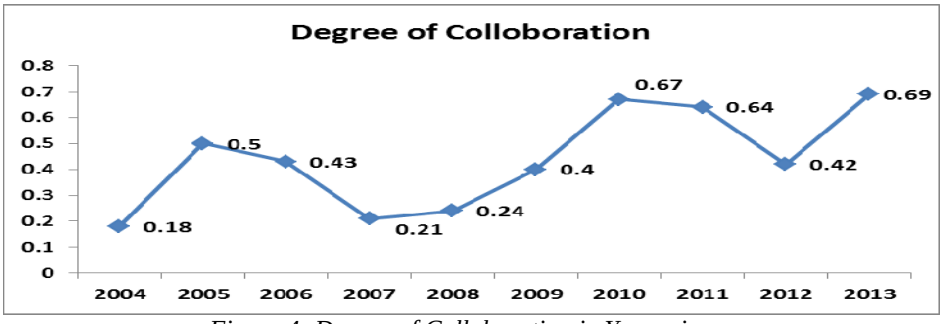


Figure 4: Degree of Collaboration in Year-wise

Institution-wise collaboration of articles

Table 6 shows the affiliation wise contributors. These sectors have been grouped into three distinct categories for the expediency of the study. The highest contributions were from universities with 177 (89.39%). This is followed by research institutions with 158 (7.58%) and Colleges with 6 (3.03%).

Table 6: Institution-wise collaboration of articles

Sl. No	Name of Institution	Total No. of Records
1	Universities	177 (89.39%)
2	Research Institutions	15 (7.58%)
3	Colleges	6 (3.03%)

Number of Articles and References

Table 7 shows the number of articles and references. It is discovered that number of references as well as average number of references per article has been fluctuating trend from 2004 to 2013, whereas it gradually increases in the year 2012. However, average number of articles per volume comes out to be 15 and average numbers of references per article come out to be 20.33 percent.

Table 7: Number of Articles and References

Year	Number of Articles	Number of References	Average Number of References Per Article	% age
2004	11	160	14.55	5.28
2005	18	256	14.22	8.45
2006	21	412	19.62	13.60
2007	24	360	15.00	11.88
2008	29	464	16.00	15.31
2009	10	174	17.40	5.74
2010	9	217	24.11	7.16
2011	11	292	26.55	9.64
2012	12	380	31.67	12.54
2013	13	315	24.23	10.40
Total	**158**	**3030**	**20.33**	**100**

Most Productive Authors

Table 8 depicts the prolific authors of the articles during the period under study. It is observed from the table that Alireza Noruzi contributed 18 articles, followed by Hamid R. Jamali with 10, A Yazdan Mansourian with 5 articles. David Nicholas & other ten authors were contributed 2 articles each while 184 authors contributed only single article.

Table 8: Most Productive Authors

Sl. No	Author Name	No. of contributions
1	Alireza Noruzi	18
2	Hamid R. Jamali	10
3	Yazdan Mansourian	5
4	Neelameghan, A.	3
5	Ina Fourie	3
6	Saeid Asadi	3
7	David Nicholas	2
8	Kirsty Young	2
9	Mansoor Al-A'ali	2
10	Mehdi Safari	2
11	Paul L. Hover	2
12	Richard Jones	2
13	Vahideh Zarea Gavgani	2
14	Veronica F. McGowan	2
15	Vladimir M. Moskovkin	2
16	William W. Bostock	2
17	Xingan Li	2
18	184 authors	(1 article each)

Geographical Affiliation of Authors

Table 9 shows the geographical affiliation of authors during 2004-2013. It is clear that out of 158 contributors, India contributed with thirty-nine articles (22.03%) with secured first, followed by Iran contributed thirty papers (16.95%). The United Kingdom & USA are secured third rank with twenty papers (11.30%) followed by Australia with nineteen papers (10.73%), Canada and Germany contributed with seven papers (3.95%) respectively.

Table 9: Geographical Affiliation of Authors

Sl. No	Country	Number of Contri-butions	%	Rank
1	India	39	22.03	I
2	Iran	30	16.95	II
3	United Kingdom	20	11.30	III
4	USA	20	11.30	IV
5	Australia	19	10.73	IV
6	Canada	7	3.95	V
7	Germany	7	3.95	V
8	France	6	3.39	VI
9	Nigeria	6	3.39	VI
10	Pakistan	6	3.39	VI
11	Russia	5	2.82	VII
12	London	3	1.69	VIII
13	Oklahoma	3	1.69	VIII
14	Oman	3	1.69	VIII
15	Singapore	3	1.69	VIII

FINDINGS AND CONCLUSION

Webology is online electronic journal in the field of Library and Information Science. A total of 158 papers are published in the period of ten years. The degree of collaboration ranges from 0.182 to 0.693 and its mean value is found to be 0.44. The study also indicates the highest number of publications (18.35%) in the year of 2008.Web Analysis (24.68%) and Social Media (15.82%) papers are the topmost publications in subject-wise analysis. Collaboration of author towards single author contribution is 60.13%, Double author contribution is 25.95% and multiple author contribution is 13.92%. 158 authors have used 3030 references for their contribution for this journal. The top most three prolific authors namely; Alireza Noruzi has contributed maximum 18 articles followed by Hamid R. Jamali (10 articles) and Yazdan Mansourian (5 articles). The India has contributed more number of articles compared to any other countries, such as Iran, United Kingdom, United States and Australia.

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