



# **iJRASET**

International Journal For Research in  
Applied Science and Engineering Technology



---

# **INTERNATIONAL JOURNAL FOR RESEARCH**

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

---

**Volume: 2**

**Issue: IX**

**Month of publication: September 2014**

**DOI:**

**[www.ijraset.com](http://www.ijraset.com)**

**Call: ☎ 08813907089**

**E-mail ID: [ijraset@gmail.com](mailto:ijraset@gmail.com)**

INTERNATIONAL JOURNAL FOR RESEARCH IN APPLIED SCIENCE  
AND ENGINEERING TECHNOLOGY (IJRASET)

# Scientometric Analysis of “Open Software Engineering Journals”

Vijayanathan.R<sup>1</sup>, Swathi.K<sup>2</sup>, Dhanavadan.S<sup>3</sup>

<sup>1</sup>Senior Librarian and Head, <sup>2</sup>Associate Professor and Head, <sup>3</sup>Assistant Librarian

<sup>1,3</sup>Department of Library and Information Science, <sup>2</sup>Department of Computer Science & Engineering

<sup>1,2</sup>Cauvery College of Engineering and Technology, Trichy. 639 103 (Tamilnadu)

<sup>3</sup>The Gandhigram Rural Institute – Deemed University, Gandhigram – 624 302, Tamil Nadu

**Abstract:** Open software engineering journals Studies had taken for this study covers from 2007-2012. The paper analyses the authorship pattern, the range and frequency of articles published. The maximum number of paper published in "Open software engineering journals" during the study period is 16 research paper published in 2007 and minimum number of papers is 5 in 2009. The results indicate that the trend is towards two authorship 6 and degree of collaboration as 0.75.

**Keyword:** Scientometrics, open software engineering journals .

## I.INTRODUCTION

Scientometrics is part of the sociology of a science and has application to science policy making. It involves

Quantitative studies of scientific activities, including among others, publication and so overlaps bibliometrics to some extent Scientometrics is a branch of the 'Science of Science'. Nalimove and Mulchenk O define this term 'as a sub-field which applies quantitative methods to the study of science as on information process [1969] Haitun Treats' Scintometrics', as a scientific discipline, which performs reproducible measurements of scientific activity and reveals its objective quantitative regularities. The Open software engineering journals most important journal of computer science and engineering is selected for this study.

## II.OBJECTIVES

The following are the objectives for this study to find out:

1. Year wise distribution of papers

2. The nature of Authorship pattern

3. The average length of papers

4. The degree of collaboration

5. The subject wise distribution of articles

## III.SOURCE AND METHODOLOGY

The journal Open software engineering journals has been selected as the source journal. It is an annual publication of the Developing Library Network ( Delnet) Newdelhi in the field of science and Technology . The data has been compiled from Open software engineering journals articles from 2007 to 2012 for each article; the following data has been noted: a) Number of author, b, number of page, degree of collaboration. All the collected data are tabulated year wise for the period of 2007-2012.

#### IV. ANALYSIS

The total number of papers published in six years (2007 - 2012) is 16. The observed data are clearly tabulated and figured in the following pages.

1.TABLE-1Year-wise Distribution of papers. Table-1 provides the details regarding the distribution of 16 articles in the volume 1-6 of open software engineering journals . The maximum number of paper 5 was published in 2009 and minimum number of papers one in 2007 and 2011.

Table 1Distribution of Articles

Sl	Year	Volume No.	Total	(%)
1	2007	1	1	6.25
2	2008	2	4	25.00
3	2009	3	5	31.25
4	2010	4	3	18.75
5	2011	5	1	6.25
6	2012	6	2	12.50
			16	100

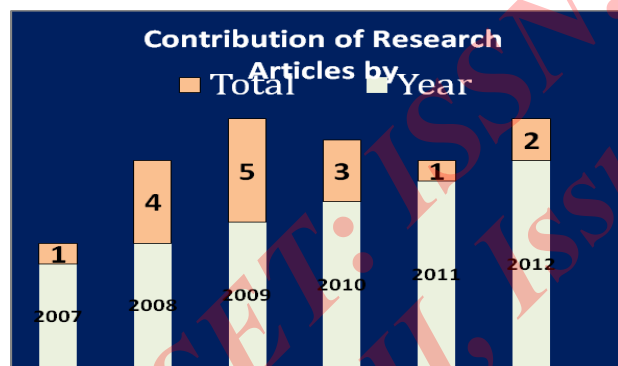


Fig. 1. Year wise publication of articles

Table 2.Length of Articles

Year wise	No. of Pages of Articles				Total
	1-20	21-40	41-60	61-80	
2007	1				1
2008	1		3		4
2009	2	2		1	5
2010	1	1	1		3
2011	1				1
2012	1	1			2
Total	7	4	4	1	16

Table-2 depicts the details regarding the number of pages published during the study period. From the observed data 5 (31.25%) articles covers high papers and 1(6.25%) articles cover low paper. then, average number of paper observed as above five .

Year	Authors per Articles				Total No. of Paper (%)	%
	Single	Two	Three	Four		
2007				1	1	6.25
2008	3		1		4	25.00
2009	1	4			5	31.25
2010		1	2		3	18.75
2011			1		1	6.25
2012		1		1	2	12.50
Total	4	6	4	2	16	100

Table 3. Authorship Patterns

# INTERNATIONAL JOURNAL FOR RESEARCH IN APPLIED SCIENCE AND ENGINEERING TECHNOLOGY (IJRASET)

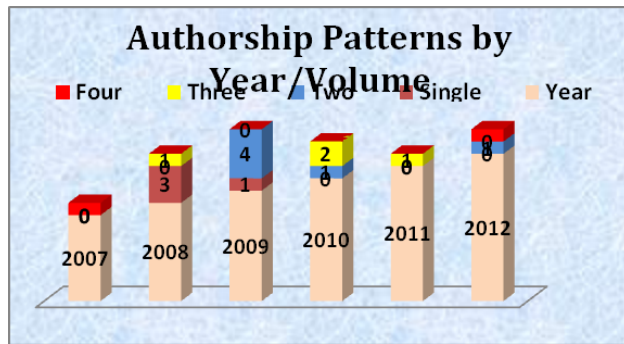


Fig. 2. Authorship Patterns by Year/Volume

It is clear that the number of volumes of research articles has been increased from 2007-2012. It is clear that the of 16 contributions, four contributions by single authors, the volumes 3 has the highest number of authors (3 volumes five paper, 9 authors) while volume 1&5 has lowest number of authors. The volumes 1&5 have lowest number of papers and somewhat high number of authors (6) when compared to 2 and 6 volumes.

Table 5. Single and Multi-Authored Research Articles by Year

Sl. No.	Year	Single Authored		Multi Authored		Total	%
		Articles	%	Articles	%		
1	2007			1	8.33	1	6.25
2	2008	3	75.00	1	8.33	4	25.00
3	2009	1	25.00	4	33.33	5	31.25
4	2010			3	25.00	3	18.75
5	2011			1	8.33	1	6.25
6	2012			2	16.67	2	12.50
Total		4	100	12	100	16	100

In all the year multi authors were dominated over single author. Even there were number of single authors in the year 2007-2012.

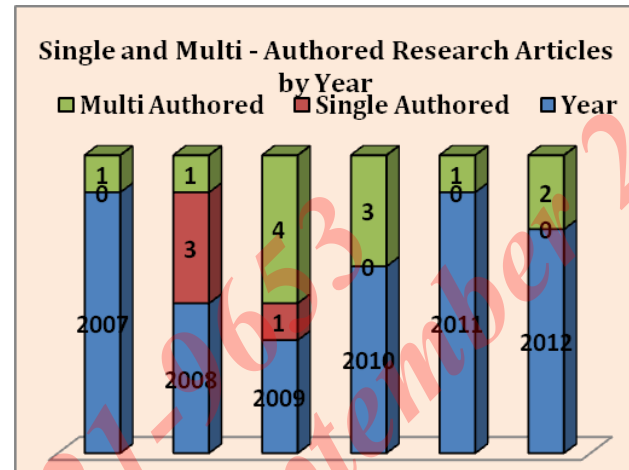


Fig 5 single and multi authored research paper

Table 6. Degree of Author Collaboration

Sl. No.	Year	Single Authored Paper (Ns)	Multi Authored Papers (Nm)	Total (Nm+Ns)	Degree of Collaboration
1	2007		1	1	1.00
2	2008	3	1	4	0.25
3	2009	1	4	5	0.80
4	2010		3	3	1.00
5	2011		1	1	1.00
6	2012		2	2	1.00
Total		4	12	16	0.75

Table 8 shows the degree of author collaboration in the open software engineering Journals the formula given by K.Subramanyam is useful for determining the degree of collaboration in quantitative terms. The study followed the same formula which is mathematically put as:

$$C = \frac{NM}{NM + NS}$$



Where C= Degree of collaboration

NM = Number of Multi-Author papers

NS = Number of Single Author Paper.

In the Present Study NM = 21, NS = 4

$$C = 12/12+4 = 12/16$$

$$C = 0.75$$

Thus the degree of collaboration in open software engineering Journals is 0.75 which clearly indicates its dominance upon multi contribution

## V. CONCLUSION

the Open software engineering journals (*OSEJ*) has been growing over 6 years from publishing 1 research articles in 2007 to 2 research articles in 2012. The authorship patterns have changed, too, from the single authors in early years to predominant multi-author collaboration in recent years.

From 2007 to early 2012, the open software engineering e Journal published articles mostly from finland authors. It started accepting research articles from any countries, thus becoming a real international journal. As of today, there are 12 countries contributing research articles to the journal, including 7 (20.00%) authors from the Finland States, 4 (11.43%) from canada and UK, 39 (17.647%) from Malaysia, and 3 (5.17%) from Kuwait.

## VII. REFERENCES

- [1] Amsaveni, N.; & Vasanthi, R. (2013). Authorship pattern and collaborative research in the field of network security. Indian Journal of Applied Research 3(1), 52-54.
- [2] Bakri, A.; & Willett, P. (2008). The 'Malaysian Journal of Library and Information Science' 2001- 2006: A bibliometric study. Malaysian Journal of Library & Information Science, 13(1), 103-116.
- [3] Kavitha T, (2013) Indian Journal of Nutrition and Dietetics: Bibliometrics Study, Journal of Advances in Library and Information Science, Vol. 2, No.1. pp. 12-14
- [4] Thavamani, Kotti. (2014). Authorship and collaborative patterns in the Chinese Librarianship: an International Electronic Journal, 1996-2013. Chinese Librarianship: an International Electronic Journal, 37 URL: <http://www.iclc.us/cliej/cl37thavamani.pdf>
- [5] Thavamani, K.; & Velmurugan, C. (2013). Authorship pattern and collaborative research work in 'Annals of Library

and Information Studies'. Proceedings of the National Conference on Next Generation Library Services, SALIS 2013 NGLIS August 16-17, Chennai.

[6] Vimala, V.; & Pulla Reddy, V. (1996). Authorship pattern and collaborative research in the field of zoology. Malaysian Journal of Library & Information Science, 1(2), 43-50.

[7] Vijayanathan. R, Kaliyamoorthi. P "Bibliometric Analysis of the Indian Journal of Agronomy for the year 2003-2013", International Journal for Research in Applied Science and Engineering Technology (IJRASET), Volume 2 Issue VII, July 2014, Page No: 374-379

## Author Biography



**Vijayanathan.R.** received his Master of philosophy Library and Information Science from Annamalai University in 1999. Also he obtained his post-graduate degree in Master of Economics in Bharathidasan University in 1996. He is working as a Sr. Librarian, Department of library and Information Science in Cauvery College of Engineering and technology, Trichy from 2009.

He has published 13 research papers in National and International journals. His areas of interest are networking; Cloud computing, IC Technologies, Environmental study, Library Automation, Webometric study, Scientometric study, Bibliometric analysis, and citation study.

## Co-authors



**Dr.K.Swathi** obtained her under-graduation in B.E., (Computer Science & Engineering) from Bharathidasan University, Trichy in 1999. She obtained her M.E. degree in Computer and Communication Engineering from Anna University, Chennai in 2004. She obtained Ph.D degree in Faculty of Information & Communication Engineering from Anna University, Chennai in 2014. Presently, she is working as Associate Professor in Computer Science & Engineering, Cauvery College of Engineering and Technology, Trichy in 2008. She has 14 years teaching experience and also she had attended many workshops, seminars and conferences on Research issues in Image processing. She has published papers in international journals and presented papers in various Conferences. She is the life member of Indian Society for Technical Education (ISTE). Her areas of interest include

## INTERNATIONAL JOURNAL FOR RESEARCH IN APPLIED SCIENCE AND ENGINEERING TECHNOLOGY (IJRASET)

---



Image processing, Data mining,  
network security and Software  
engineering.

**Dr. S. Dhanavadan**, is working as  
Assistant Librarian at The Gandhigram  
Rural Institute – Deemed University,  
Gandhigram – 624 302, Tamil Nadu.

He has completed M.A. B.Ed., (Economics) DLL & AL.,  
(Law), M.L.I.S, M.Phil, and Ph.D (LIS) in Annamalai  
University, Annamalai Nagar. He has guided many Ph.D  
scholars and Doctoral Committee member in various  
Universities in Tamil Nadu. He has published more than 55  
articles in National and International Journals and 75 papers  
presented and published in National and International  
Conferences. Further he also published in Ten books in  
Library and Information Science and 15 papers published in  
Chapters in edited books. He has attended more than 40  
Seminars/Workshops and training programmes. He served  
more than 12 years as Senior Librarian in reputed Engineering  
College. He has organized two workshops on Developing  
Article writing skills and Web Technologies for Employability  
skills. He is life of member of SALIS, IALA and MALA.

IJRASET: ISSN: 2321-9653  
Volume II, Issue IX, September 2014



10.22214/IJRASET



45.98



IMPACT FACTOR:  
7.129



IMPACT FACTOR:  
7.429



# INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24\*7 Support on Whatsapp)