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

Call: 08813907089 | E-mail ID: ijraset@gmail.com

ISSN: 2321-9653

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

Scientometric Analysis of "Open Software Engineering Journals"

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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 bibliomentrics to some extent Scientometrics is abranch 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 it's objective quantitative regularities. The Open software engineering journals most important journal of computer science and engineering is selects 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 a annual publication of of 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.

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

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

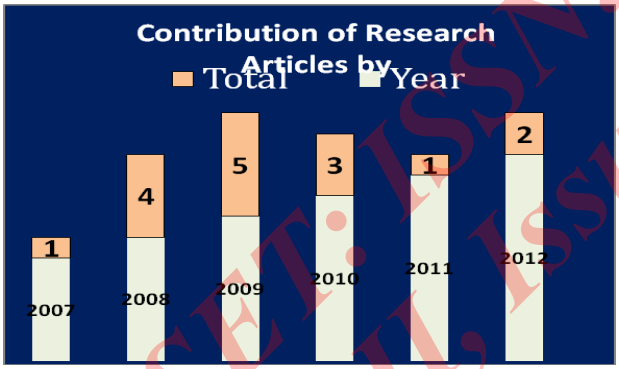


Fig. 1. Year wise publication of articles

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 (3**1.25**%) 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

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Volume II, Issue IX, September 2014

ISSN: 2321-9653

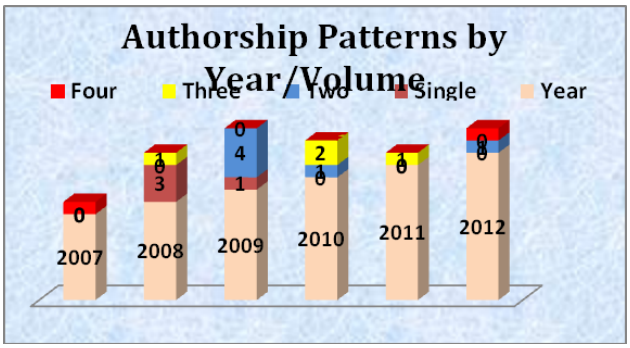


Fig. 2. Authorship Patterns by Year/Volume

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.

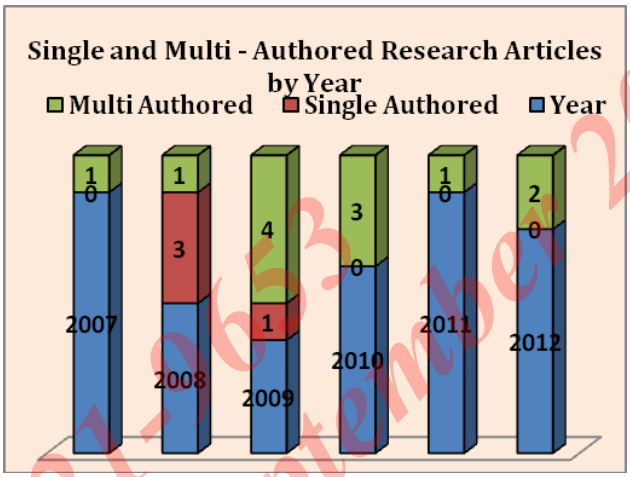


Fig 5 single and multi auhored research paper

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=NM/NM+NS

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

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.

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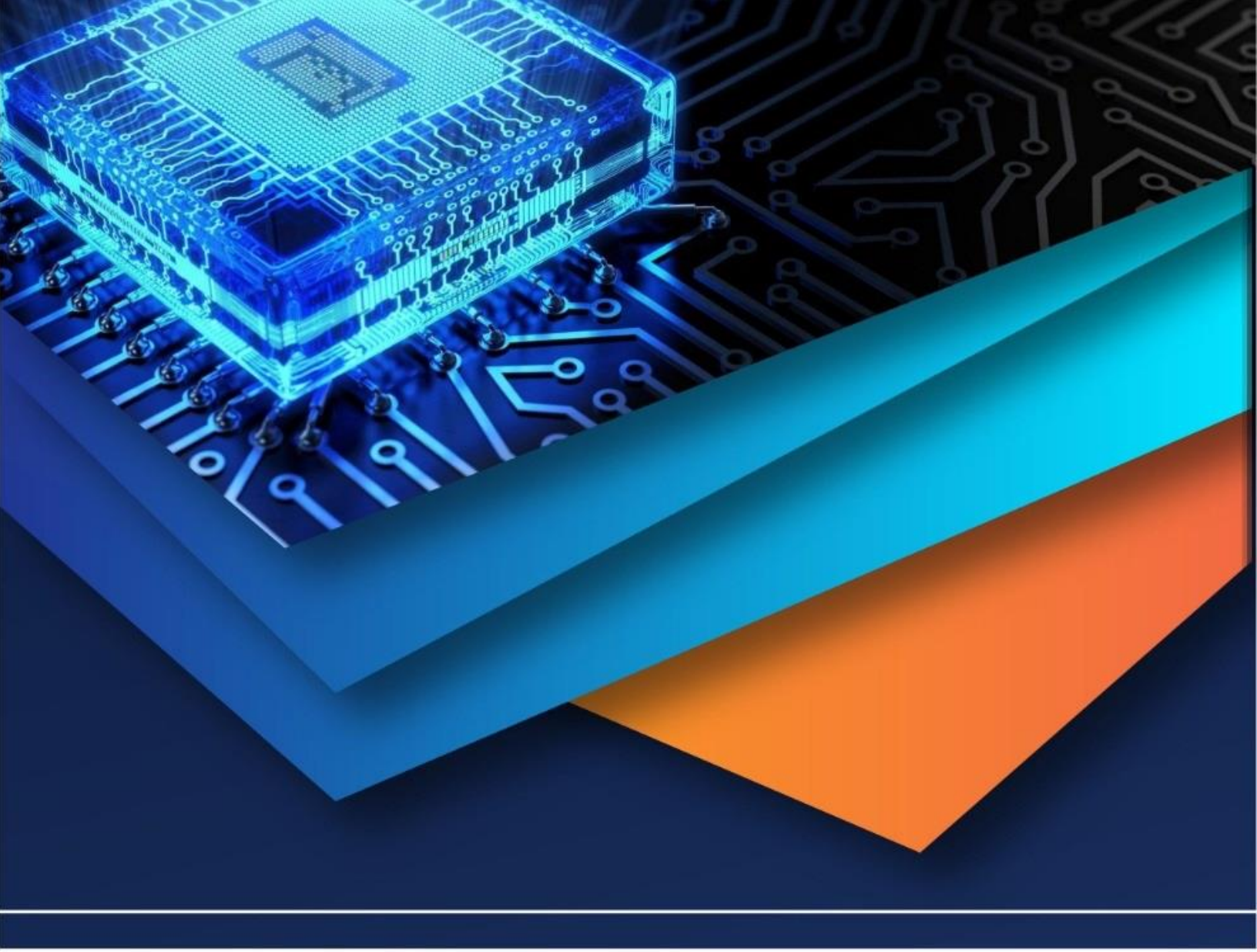
ISSN: 2321-9653



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Volume II, Issue IX, September 2014



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