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Authorship and Collaborative Patterns in the Open software Engineering Journals, 2007-2012

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Abstract: Bibliometric techniques were applied to analyze the authorship trend in the "the Open software Engineering journals, 2007-2012 . A total of 16 articles in the Journal were examined by year and volume to ascertain authorship patterns, author productivity, the average degree of collaboration is 0.75 during the period under study

I. INTRODUCTION

The open software engineering journals is a peer-reviewed open access e-journal. OSEJ was launched in 2007 and published annual by the Internet software engineering Club. It is a scholarly journal in English devoted to the various fields of software and information Technology. It publishes research findings, case studies, book reviews, and technical procedures by faculty, researchers, and students. OSE It is indexed with the full text available in the "Computer science & Technology Abstracts with Full Text" database on http://www.delnet.org. The coverage is from 2007 onwards.OSE has adopted a new copyright statement in support of the open access initiative and is going fully online from 2009. (LISA) and listed in Ulrich's Periodicals Directory, Directory of Open Access Journals DOAJ (DOAJ), and Cabell's Directory of Publishing Opportunities in Educational Technology and Library Science.

II. OBJECTIVE OF THE STUDY

The objectives of the present study are as follows:

1.
2. To study authorship patterns by year and issue
3. To study author productivity
4.
5. To identify most prolific contributors, and
6. To identify degree of author collaboration

III. METHODOLOGY

The data was collected from the open access website of the Open software Engineering journals to evaluate the research publication of Developing Library Network (Delnet) new delhi in the field of science and Technology Research article contributions by issue and year, number of authors, authorship patterns by volume, authorship patterns by country, author's productivity, most prolific contributors, and degrees of author collaboration were recorded. Research contribution in the field of science and technology database on open software engineering journal and cover the period from 2007 to 2012, Further, the research has downloaded the paper and bibliographical data in the form of notepad files. Then the bibliographical details are converted to the form of MS –EXCEL format using the PHP (hypertext pre processor), Scripting language text extracting based an delimiters Programme. Finally, the unique data are rearranged in MS –EXCEL format to the data for analyzing the present study.

IV. SCOPE AND COVERAGE OF THE STUDY

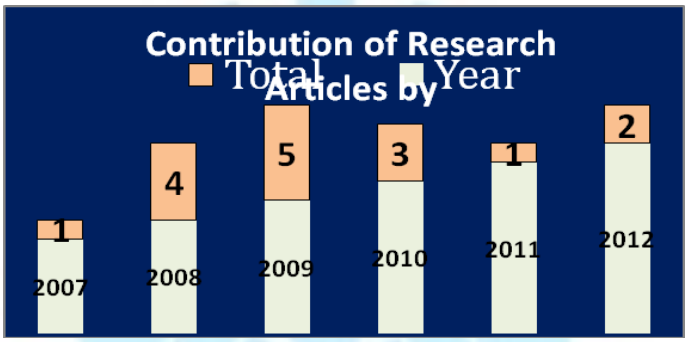
The analysis of information use of the research publication of Developing Library Network (Delnet) Newdelhi in the field of science and Technology The subject coverage on the open source software journals by them during the period from 2007-2012 were taken for the study

V. ANALYSIS

Table 1. Contribution of Research Articles by Year and Volume

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

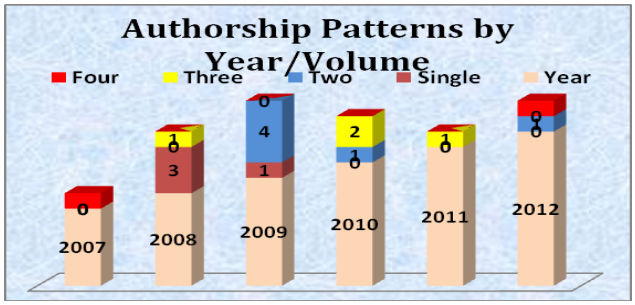
Table 1 and Graph 1 show the growth of research articles published in the Open software engineering Journal from 2007- 2012 was 16. The highest number of research articles (5, 31.25%) was published in the year 2009 while the lowest number (1, 6.25%) of research articles in the year 2007and 2011.



Graph 1. Contribution of Research Articles by Year

Table 2. Authorship Patterns by Year/Volume

Year	Vol.	Authors per Articles				Total No. of Paper (%)	Total No. of Author (%)
		Single	Two	Three	Four		
2007	1				1	1	3
2008	2	3		1		4	6
2009	3	1	4			5	9
2010	4		1	2		3	8
2011	5			1		1	3
2012	6		1		1	2	6
Total		4	6	4	2	16	35

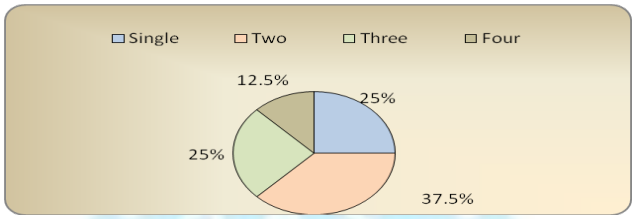


Graph. 2. Authorship Patterns by Year/Volume

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 3. Authorship Patterns

Sl. No.	Author	Total	Percentage (%)
1	Single Author	4	25.00
2	Two Authors	6	37.50
3	Three Authors	4	25.00
4	Four Authors	2	12.50
Total		16	100

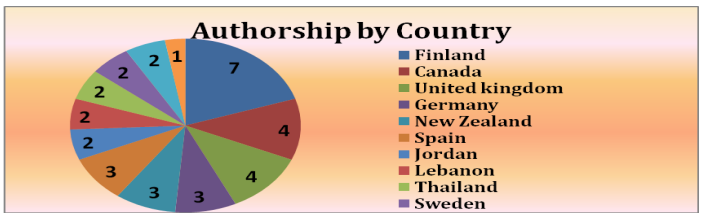


Graph 3 .Authorship Patterns

The above table-3 showed that out of 16 articles contributed a single author has contributed 25.00% of the total articles.37.50 % of the contributions were published two authors, 25.00% of the contributions were contributed by one author and three authors, 12.50 % of contributions were contributed by more than four author. A Significant note of the study is that the majority of articles are contributed by two authors.

Table 4. Authorship by Country

Sl. No.	Country	No. of Contributions	Percentage (%)
1	Finland	7	20.00
2	Canada	4	11.43
3	United kingdom	4	11.43
4	Germany	3	8.57
5	New Zealand	3	8.57
6	Spain	3	8.57
7	Jordan	2	5.71
8	Lebanon	2	5.71
9	Thailand	2	5.71
10	Sweden	2	5.71
11	Nicosia	2	5.71
12	Mexico	1	2.86
Total		35	100



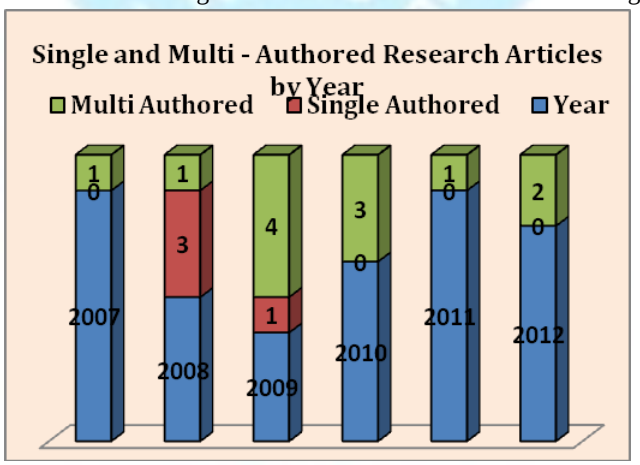
Graph 4 . Authorship by Country

The 16 research articles were contributed by 35 authors from twelve countries. The highest number of authors 7, 20.00%) were from finland and lowest number of authors from meixco (1,2.86%) where as Canada and united kindom has come in the second place (4,11.43%)

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.



Graph. 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 6 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
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 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 , 3 (8.57%) from Germany etc., and 1 (2.86%) from mix co.

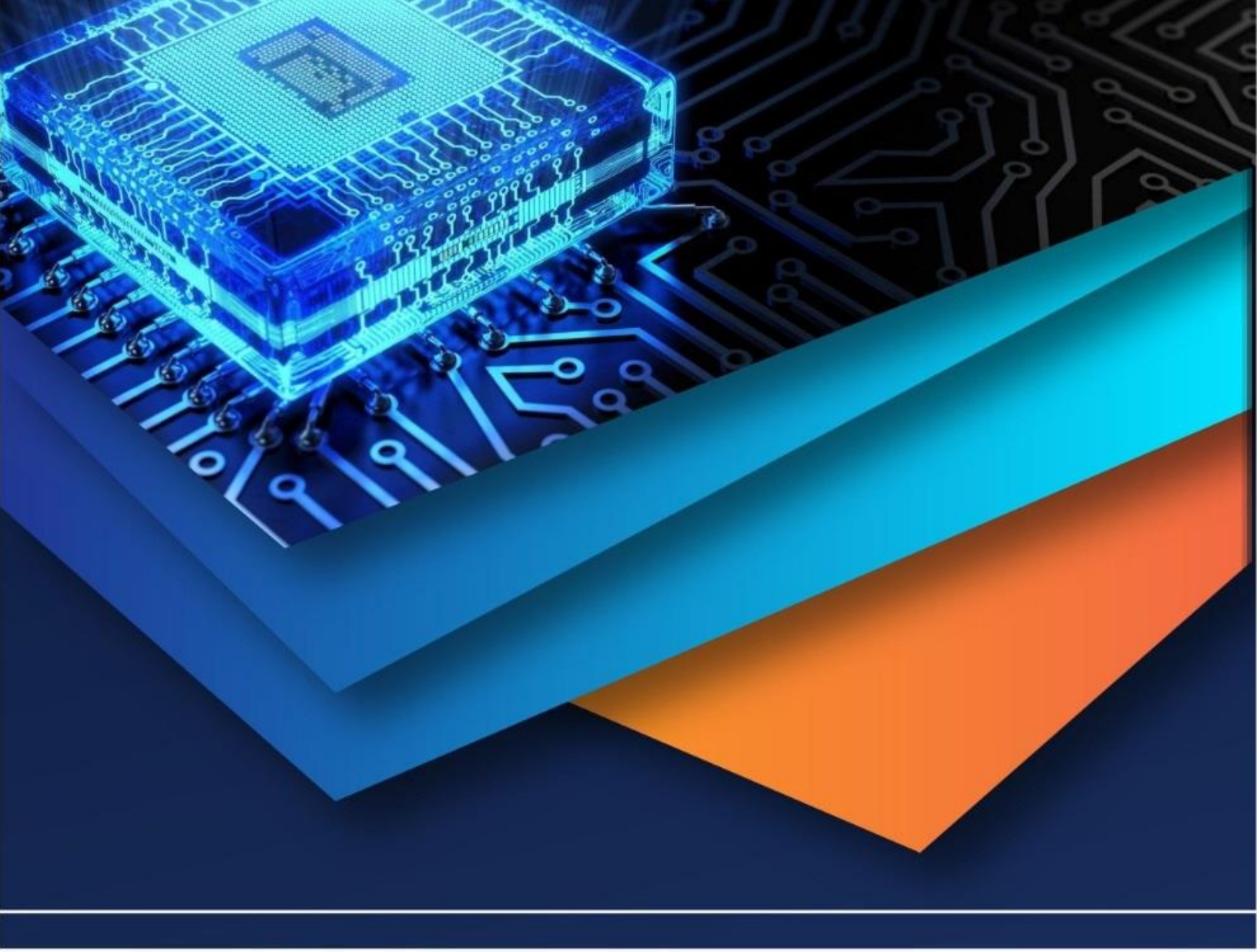
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AUHTOR'S PROFILE



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.
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