SCIENTOMETRIC ANALYSIS – COMPUTER MEDIATED COMMUNICATION

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ABSTRACT: - *The present study attempts on the Scientometric analysis of Journal Computer Mediated Communication. It is based on the references appended to International Journal of "Computer Mediated Communication" during 2009-2013. The present study is based on 5 volumes, 20 issues of the Journal of computer Mediated Communication. It was found that journals citations are more in number than the other citations.*

KEYWORDS: Scientometrics, Computer Mediated Communication, Authorship pattern

INTRODUCTION

Scientometrics is the science of measuring and analyzing science. In practice, scientometrics is often done using bibliometrics which is a measurement of the impact of (scientific) publications. Scientometrics is the study of measuring and analysing science, technology and innovation. Major research issues include the measurement of impact, reference sets of articles to investigate the impact of journals and institutes, understanding of scientific citations, mapping scientific fields and the production of indicators for use in policy and management contexts. In practice there is a significant overlap between scientometrics and other scientific fields such as bibliometrics, information systems, information science and science of science policy.

The Present study is a Scientometric analysis of Computer Mediated Communication. An attempt has been made in this study to find out various characteristics such as authorship pattern of contributions, average citation per contribution in each volume etc.

REVIEW OF LITERATURE:

S, Nattar. (2011) He studied the Scientometric analysis of 454 articles published in the Indian Journal of chemistry(Section A) during the year January 2006 –December 2008. They observe the distribution of contributions, authorship pattern, geographical distribution of contributions. Results indicate that highest numbers of papers had written by co-authors. The growth and popularity of this journal is found to show an upward trend.

Khaparde V S (2011) she studied the pattern of information use by researcher in the field of library and information science. It is based on the references appended to International Journal of "Library Hi Tech" during 2005-2009. The present study is based on 3876 references appended to 247 articles contributed by the authors in Library Hi Tech. In Authorship pattern it was found that Solo Research is Predominant than Collaborative Research.

Kumbar Prakash & Biradar Nirmala (2015) They studied various aspects of forensic sciences literature. The study explores and analyses the various bibliometric components of the research articles published on-line version of Web of Science in the field of forensic sciences during 2001-2015. Such as year wise distribution, geographical wise, organization wise, Language wise, form wise, etc. The highest number of articles was published in the year of 2015, while lowest numbers of research articles were reported in the year 2002.

SOURCE JOURNAL

Computer mediated communication has been selected as the source journal for the present study. The Journal of Computer-Mediated Communication (JCMC) is a web-based, peer-reviewed scholarly journal. Its focus is social science research on computer-mediated communication via the Internet, the World Wide Web, and wireless technologies JCMC is one of the oldest web-based Internet studies journals in existence, having been published quarterly continuously since June 1995. The journal was started by Margaret McLaughlin and Sheizaf Rafaeli in response to the growth of CMC scholarship in the early- to mid-1990s.The founding editors had the vision to make JCMC an open-access, online journal.

OBJECTIVES OF THE STUDY

The main objectives of the present study are:

1. To examine the distribution of the contrition Volume wise.
2. To find out authorship pattern of contributions.
3. To find out authorship pattern of contributions Volume wise.
4. To find out Degree of collaboration year wise.
5. To find out the contribution Institution wise.
6. To find out the Geographical distribution of contributors of articles.
7. To find out the types of publication cited volume wise.
8. To find out the average citation per contribution in each volume.
9. To find out the average pages per volume & per contribution.

SCOPE & LIMITATON

The present study is based on 5 volumes, 20 issues of the Journal of computer Mediated Communication during 2009-2013. The present study is based on over all 8663 citations appended to 168 articles.

Table No. 1: Distribution of contributions (Volume-wise)

Year	Volume No.	No. Of Issue	No. Of Contributions	Percentage
2009	14/15	4	60	35.71%
2010	15/16	4	30	17.86%
2011	16/17	4	20	11.90%
2012	17/18	4	30	17.86%
2013	18/19	4	28	16.67%
	TOTAL	**20**	**168**	**100%**

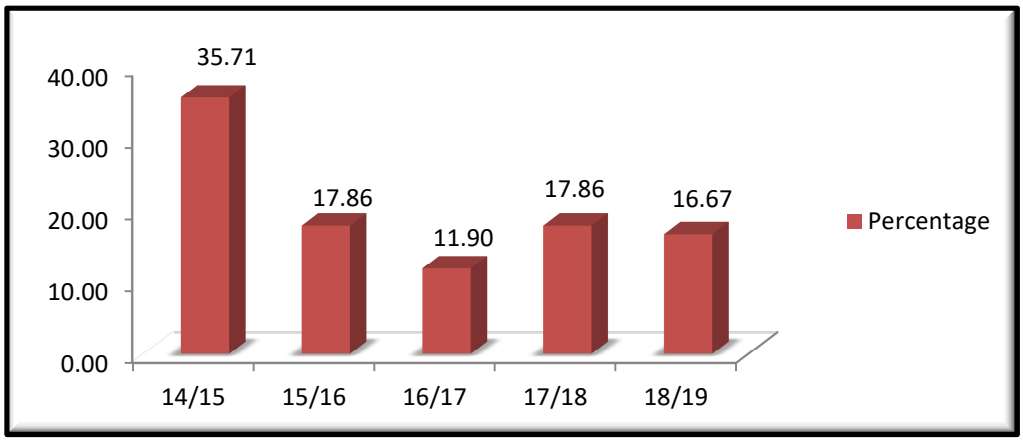

Figure No. 1 Distribution of contributions (Volume-wise)

The Distribution of contributions (Volume- wise) is shown in Table No. 1 & Figure no. 1 out of the total 168 contributions majority of the contributions i.e. 60 contributions were contributed in 2009 were as minimum contributions i.e. 20 contributions were contributed in 2011

Table No. 2 Relative Growth Rate[RG(p)] and Doubling Time[Dt(p)] of the Articles

Year	No. of article	Cumulative	W1	W2	R(a) W2-W1	MeanR(a)= W2-W1	Dt=0.693	Mean Dt(a)
2009	60	60	-	4.09	4.09	0.97	0.16	2.21
2010	30	90	4.09	3.4	0.69		1	
2011	20	110	3.4	2.99	0.41		1.69	
2012	30	140	2.99	3.4	-0.41		-1.69	
2013	28	168	3.4	3.33	0.07		9.9	

Fig. No. 2 Relative Growth Rate[RG(p)] and Doubling Time[Dt(p)] of the Articles

Table-2 indicates that the relative growth rates for all sources of Computer mediated communication research output have decreased from 0.69 in 2000 to -0.78 in 2013. The mean relative growth rates for the periods 2009-2013 are 0.97 The overall study period has witnessed a mean relative growth rate of 0.33.

Table No.3: Authorship pattern of Contributions

No. of Author	No. of contribution	No. of Authorship	Percentage
Single author	51	51	12.59
Two author	53	106	26.17
Three author	35	105	25.93
More than three author	28	142	35.06
Author not mentioned	1	1	0.25
Total	**168**	**405**	**100.00%**

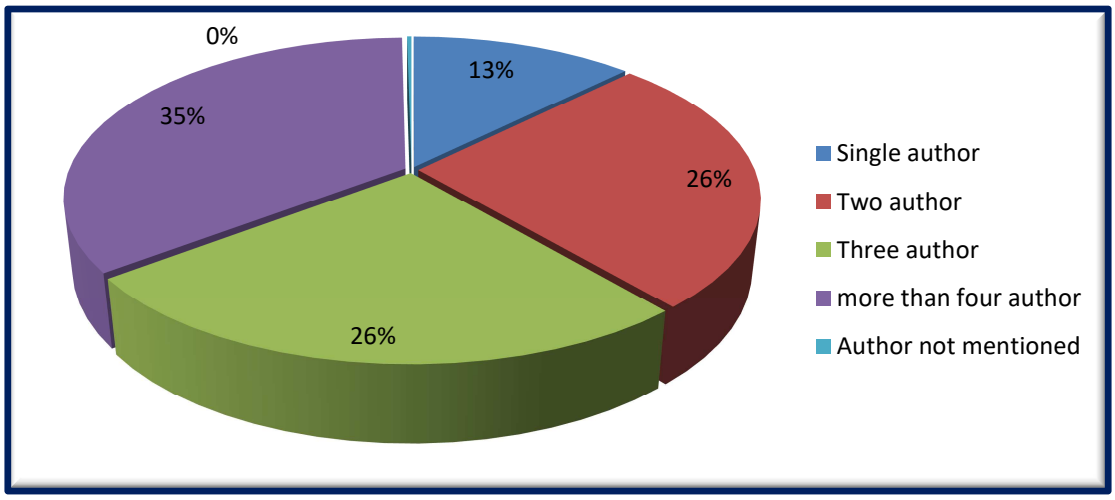

Figure No. 3 Authorship pattern of contributions

The distribution of Authorship pattern is given in the Table No.3. The table shows the single authorship is predominant then multi authors. Table No. 3& Figure no. 3 indicates the majority of the contributions are contributed by Two author. In which hypothesis no. 1 is valid. **"Majority of the contributions are contributed by Two authors" Table no, 2.**

Table No. 4: Authorship pattern of Contribution (Volume- wise)

Volume No.	Single Author	Two Author	Three Author	More than three author	Not mentioned	Total Article
14/15	22	20	9	9	0	60
15/16	9	3	7	10	1	30
16/17	3	11	3	4	0	21
17/18	12	9	7	2	0	30
18/19	4	8	10	5	0	27
Total	**50**	**51**	**36**	**30**	**1**	**168**

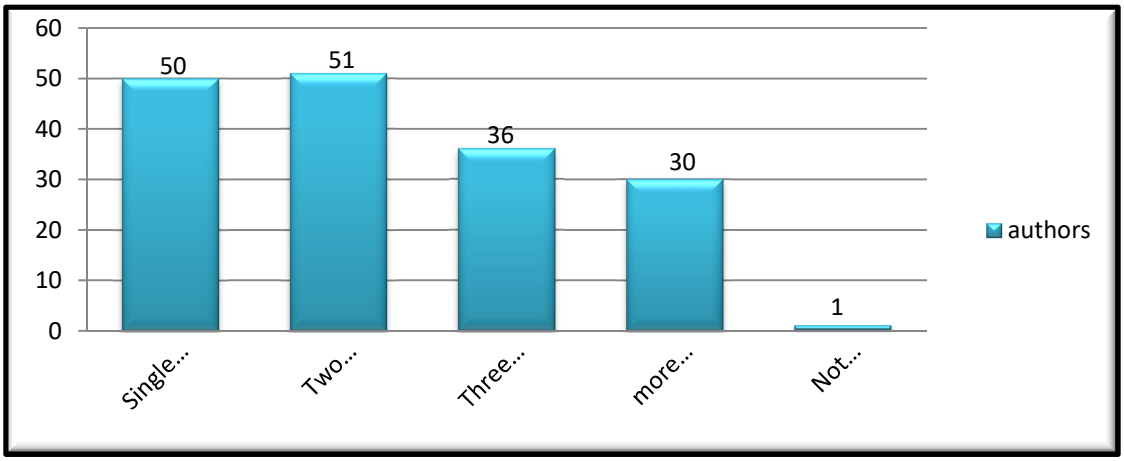

Figure no. 4 Authorship pattern of contributions

Table No. 4 shows the authorship pattern of contributions (Volume-wise). Distributions of contribution by a single author in volume no. 14/15 indicate that the maximum percentage is of single author. Two author's contributions in volume no. 14/15 show the highest percentage. Table No. 4 & figure no. 4 indicates the majority of the contributions are contributed by Two authors

Degree of collaboration in the international journal of "Computer Mediated Communication" the formula given by k. Subramanyam is useful for determining the 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 authored papers

NS= Number of single authored papers

In the present study

NM= 29

NS= 79

$= \frac{29}{29+79} = \frac{29}{108} = 0.2685$

Those, C= 0.2685

Thus the degree of collaboration if the international journal of "Computer Mediated Communication" is 0.2685 which clearly indicates its dominance upon individual contribution. Where hypotheses no. 1 is valid **"Majority of the contributions are contributed by Two authors" Table No. 3.2**

Table No. 5: Year wise Degree of Collaboration

Year	Total no. of article	Total no. of author	No. of single authored articles	% of article	No. Of multi authored articles	% of article	Degree of collaboration
2009	60	60	51	64.56	9	31.3	0.15
2010	30	30	9	11.39	10	34.48	0.52
2011	20	20	3	3.80	4	13.79	0.57
2012	30	30	12	15.19	2	6.90	0.14
2013	28	28	4	5.06	4	13.79	0.5
Total	**168**	**168**	**79**	**100.00**	**29**	**100.00**	**1.88**

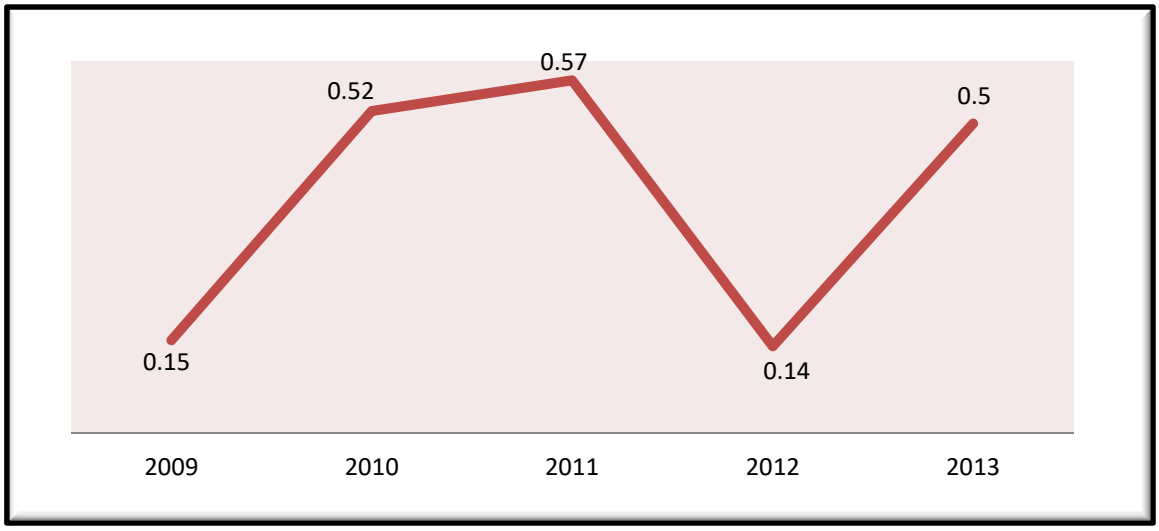

Figure no. 5 Year wise Degree of Collaboration

Table No. 5 shows that in the 5 years period, the single authorship articles are higher and predominant than multi author. The multi authored articles are which are highest in the year 2010. It is the seen that the single authorship trend in increasing.

Table No. 6: Contributions (Institution wise)

Volume no.	Year	University	Institution	College	Not mentioned	Total
14/15	2009	121	03	0	05	129
15/16	2010	64	05	05	12	86
16/17	2011	41	02	02	03	48
17/18	2012	57	00	0	03	60
18/19	2013	66	00	01	15	82
	TOTAL	**349**	**10**	**08**	**38**	**405**

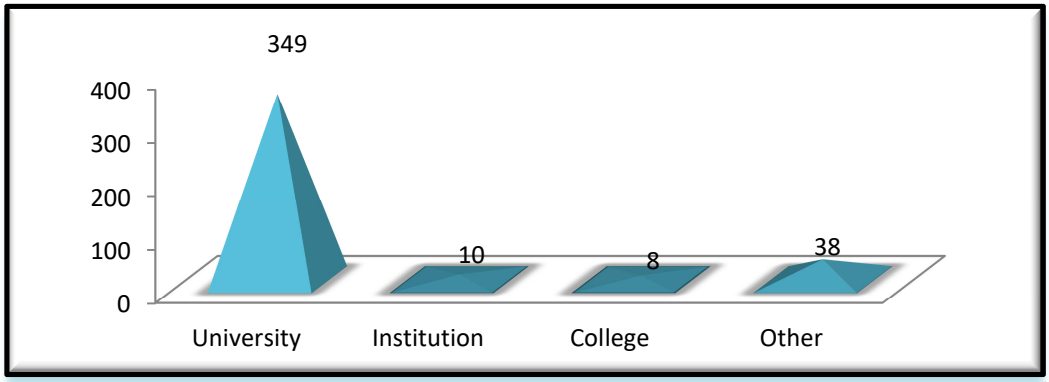

Figure no. 6 Contributions (Institution wise)

Table No. 6 shows distribution of institutions volume wise contributions. University wise at the national level followed by colleges. It was seen that university wise contribution in maximum (349) than institution wise (10) and (8) contributions were contributed by the colleges. Table No. 6 shows that the highest number of contributions are of university level.

Table No. 7: Geographical Distribution of contributions at international level

Sr. No.	Name of Country	No.of Contribution	Percentage
1	USA	225	55.56
2	Netherland	31	7.65
3	UK	18	4.44
4	Canada	17	4.2
5	Korea	11	2.72
6	Taiwan	8	1.98
7	Spain	6	1.48
8	Switzerland	6	1.48
9	Germany	10	2.47
10	Singapore	15	3.7
11	Belgium	5	1.23

12	Finland	5	1.23
13	China	5	1.23
14	Estonia	4	0.99
15	Kent	5	1.23
16	Italy	3	0.74
17	Israel	3	0.74
18	Turkey	2	0.49
19	Gress	2	0.49
20	Chile	1	0.25
21	Iceland	1	0.25
22	Cyprus	1	0.25
23	Norway	1	0.25
24	Denmark	2	0.49
25	Australia	1	0.25
26	Lithuania	1	0.25
27	Newzeland	1	0.25
28	Not mention	15	3.7
	Total	**405**	**100%**

Table No. 7 shows the Geographical distribution of contributions at international level. Table No. 7 indicates that the majority of the contributions where contributed by USA (55.56) were as the minimum contributions were contributed by (0.25) respectively.

Table No. 8 Types of publication cited (Volume wise)

Volume No.	Year	Books	Journals	Others	Total
14/15	2009	622	1675	833	3130
15/16	2010	210	965	362	1537
16/17	2011	212	742	231	1185
17/18	2012	247	839	312	1398
18/19	2013	246	809	358	1413
Total		**1537**	**5030**	**2096**	**8663**

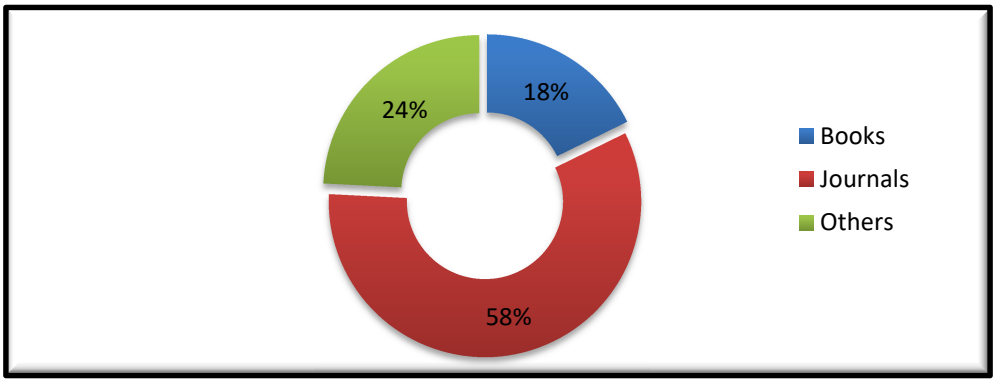

Figure no.8 Types of publication cited Volume wise)

Table No. 8 shows the types of publication cited volume wise. Of the total 168 contributions majority (53.62) of the citations are the Journal citations and minimum (45.32) are book citations. In which hypotheses no. 3 is valid "The LIS professional make use of the journal articles the most" Table No. 8.

Table No. 9 Average citation per contribution in each volume

Volume No.	No. Of Contribution	No. Of Citation	Percentage
14/15	60	3130	36.13
15/16	30	1537	17.74
16/17	20	1185	13.68
17/18	30	1398	16.14
18/19	28	1413	16.31
Total	**168**	**8663**	**100.00%**

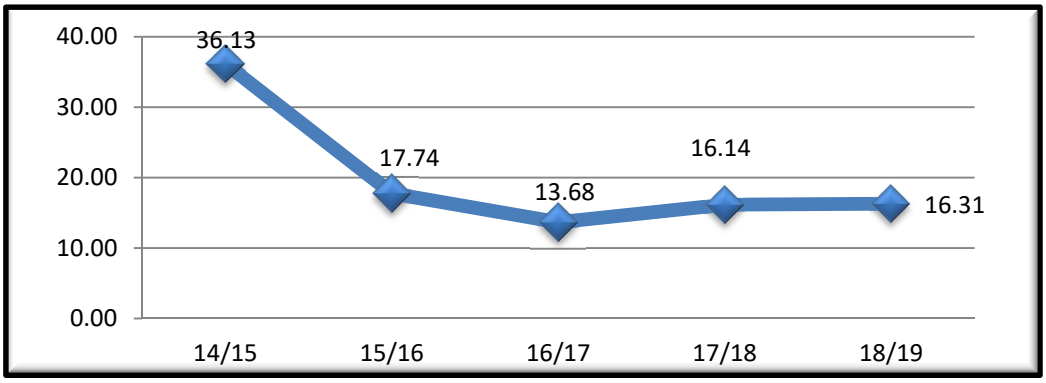

Table No. 9Average citation per contribution in each volume

Table No. 9 shows the average citation per contribution in each volume, total 168 contributions were contributed. Maximum numbers of citations were contributed by volume no. 14/15 (36.13) and the minimum (13.68) contributions were contributed by volume no. 16/17.

Table No. 10 Average pages (per volume & per contributions)

Volume No.	Total Pages	No. Of Article	Percentage
14/15	433	60	28.15
15/16	363	30	23.60
16/17	361	20	23.47
17/18	246	30	15.99
18/19	135	28	8.78
Total	**1538**	**168**	**100.00%**

The Table No. 10 shows the average pages (per volume & per contributions). The maximum pages were covered in volume no. 15/16 (23.60) & minimum pages were covered in volume no. 18/19 (8.78).

CONCLUSION

Scientometrics analysis is the major techniques of Bibliometrics which is used in the further study. Considering published literature present study has used quantitative method. Scientometric is relatively new subject of information. It helps to evaluate information & to handle the information in libraries and information centers by the quantitative analyzed information. It deals with the mathematical and statistical analysis. This is an umbrella term used for many studies where quantitative method or techniques are used to investigate various aspect of written document.

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