INTERNATIONAL JOURNAL OF INFORMATION SCIENCE & TECHNOLOGY : A SCIENTOMETRICS STUDY

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Abstract :

The present study attempts on the Scientometric analysis of International Journal of Information Science & Technology. It is based on the references appended to International Journal of "International Journal on Information Science & Technology" during 2009-2013. The present study is based on 1390 references appended to 75 articles contributed by the authors in International Journal on Information Science &Technology. It was found that journals citations are more in number than the other citations. In authorship pattern it was found that solo research is predominant then collaborative research. The degree of collaboration was calculated & it was found that the single authorship trend is Decrease gradually in International Journal of Information Science & Technology. It was seen that researchers cite latest documents. The study shows the period of International Journal of Information Science & Technology is 5 years approximately.

KEYWORDS :

E- Journal, Information Science, Technology, Scientometrics, Quantitative Data.

INTRODUCTION

The aim of Scientometrics is to provide quantitative characterization of scientific activity; Scientometrics is branch of library and information sciences. Because of the particular importance of publication in scientific communities, it largely overlaps with Bibliometrics, which is quantitative analysis of media in any written form. A complex of quantitative mathematical and statistical methods used to investigate such aspects as research staff, and to define evolutionary & prospectus of science (Bonitz, 1999). Scientometrics is a very recent term .It is often used synonymously with the term Bibliometrics. In addition to disciplines of measurement, Scientometrics has strong connection with information and library of science as well as science policy. In 1970 we saw the development of Scientometrics as on operational activity. Applying Bibliometrics method to their own field, Scientometrics confirm that their own domain, standing evolved as heterogeneous field in topics and practices. The research has been done on Scientometrics analysis: International Journal on Information Science & Technology. Whereas the studies on Scientometrics analysis of journal were done by Balasubramanyam V. 1972; Shanmghan G. 1974; Chaudhari Maitreyi, 1980; Gupta Anita, 1981; Patnaik Hari Bhaskar, 1982; Manavatar R, 1982; Suseela M, 1983; Vijayan B. 1983; Kandalhen U.S. 1983; Mahindre, 1984; Mahindre Parkash Wamanrao, 1985; Kuchhadiya Devji Bhura, 1986; Om Prakash, 1995; James K N, 2009; Borah Basantha Kumar, 2009; Newman (2010); Schamhorst (2012) Milojevic & Leydesdoff (2013) In addition to this, a few books large number of research articles related to present study have been reviewed.

CITATION ANALYSIS

Citation analysis is one of the popular method explore for identification of core document and complex relation between citing and cited document for a particular scholarly community in geographical proximity (Kulshresta and Harridasan, 2007); It is based on the principle that : "The actual use of material is indicative of its relevance to current research". There are two directions that citation analysis can proceed.

E- JOURNAL

"   A journal is publications in any medium issued in successive part's bearing numerical or chronological designations and indented to be continued indefinitely (AACR2) - (WWW library.iitkgp.ernet. in.): E- journal is defined as the grouping of information that is sent out in electronic form with some regularity. It covers any serial or serial like publication available in electronic format, which is produced published and distributed electronically (Ramesh, yeranagula, 2003); A journal is academic in nature which is published using the world wide web; such a journal usually uses internet technology refereeing of papers. Many e- journals pride themselves on rapid refereeing and consequent repaid publication. (Gupta, 1998)

SELECTED E- JOURNAL

International Journal of Information Science & Technology

        The journal of International Journal of Information Science & Technology is a by Half Yearly journal. The journal was first publication in the year 2007. This journal is a member of subscribes to the principles of the committee on publication Ethics e-access right include one going access to volume year subscribed and temporary access back to 2007 where available. Online access back to volume one issue one is also available via the EBSCO Back files product.

OBJECTIVES OF THE STUDY

The main objectives of the present study are:

1) To examine the distribution of the contributions 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, 10 issues of the New Library world during 2009-2013.
The present study is based on over all 1390 citations appended to 75 articles.

DATA COLLECTION

        Data can be numerically expressed that is quantified quantifiable or objective (Fasibs off and Dely, 1990) the data was collected from 5 volumes, 10 issues of Information Science & Technology during 2009-2013. In all 1390 citations appended to 75 articles were further analyzed.

DATA ANALYSIS

        Analysis of information or data is one of the important part of any study Data analysis is done for the purpose of huge volume of data is reduced into meaning full case report.
        Analysis of total 1390 citations appended to 75 articles was done in the journal during 2009 to 2013. It was done by using various parameters like to identify the core journals to rank of cited journal to rank. The cited author to find out geographical distribution of citations to find out the types of cited documents, the data or information was presented in the form of table and graphs to show the result prominently and easily.
        The International Journal of Information Science & Technology E-Journal is published Two times in a year. It is an online journal published in 2007.
        The present study is based on 5 volumes 10 issues of E- Journal International Journal of Information Science & Technology during 2009-2013.

The present chapter deals with the Scientometrics analysis of different E- journals as per the following parameters.

1) Distribution of contributions. (Volume-wise)
2) Authorship pattern of contributions.
3) Authorship pattern of contributions. (Volume-wise)
4) Year- wise Degree of collaboration.
5) Distribution of contributions. (institution- wise)
6) Geographical distributions of contributions at International level.

7)Type of publications cited. (Volume- wise)
8)Average citation per contributions in each volume.
9)Average pages. (per volume per contributions)

1.Distribution of contributions (Volume-wise)

The Volume wise Distribution of contributions is shown in Table No.1

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

Distribution of Contribution's (Volume-Wise)				
Year	Volume No.	No. of Issue	No. of Contribution	Percentage
2009	7	2	15	20.00%
2010	8	2	15	20.00%
2011	9	2	15	20.00%
2012	10	2	16	21.33%
2013	11	2	14	18.67%
Total		10	75	100.00%

It was observed from Table No.1 and figure No. 1 that the Distribution of contributions (Volume- wise) is shown in Table No. 1 & Figure no. 1 out of the total 75 contributions majority of the contributions i.e. 15 contributions were contributed in 2008, 2009, 2010 were as minimum contributions i.e. 14 contributions were contributed in 2013.

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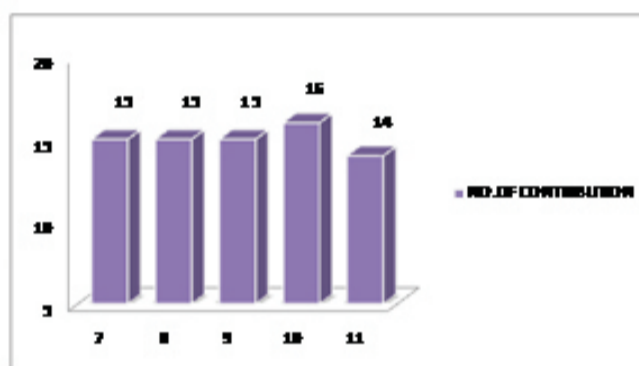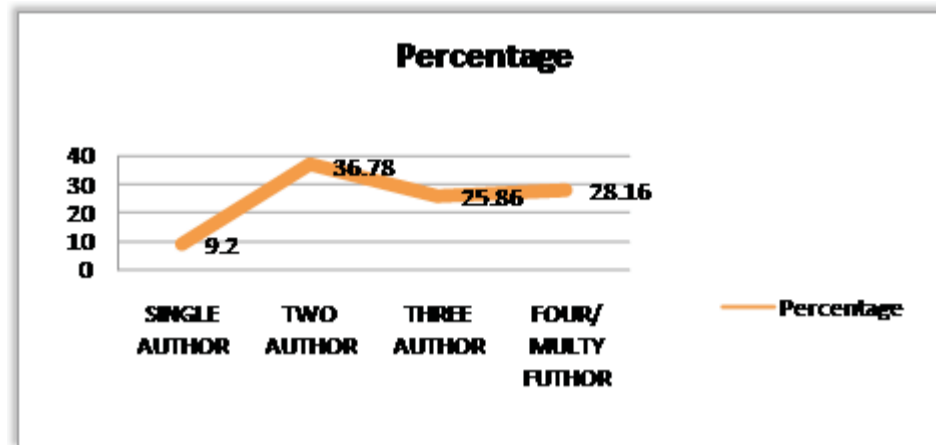

2.Authorship pattern of contribution

The Authorship pattern of contributions is shown in Table No. 2

Table No. 2 Authorship pattern of contributions

Authorship Pattern of Contribution's			
No. of Author	No. of Contribution	No. of Authorship	Percentage
Single Author	16	16	9.20%
Two Author	32	64	36.78%
Three Author	15	45	25.86%
Four/ Multi Author	12	49	28.16%
Total	75	174	100.00%

The distribution of Authorship pattern is given in the Table No.2. The table shows the single authorship is predominant then multi authors. Table No. 2 & Figure no. 2 indicatives the majority of the contributions are contributed by single author. Where it is seen that "Majority of the contributions are contributed by Two author" Table no, 2.

Figure No. 2 Authorship pattern of contributions

### 3.Authorship pattern of contribution (Volume- wise)

The authorship pattern of contributions is revealed shown in Table No. 3

Table No. 3 Authorship pattern of contribution (Volume- wise)

Authorship Pattern of Contribution's (Volume- Wise)					
Volume No.	Single Author	Two Author	Three Author	Four/ Multi Author	Total Article
7	5	7	3	0	15
8	2	8	5	0	15
9	4	7	1	3	15
10	4	5	3	4	16
11	1	5	3	5	14
Total	**16**	**32**	**15**	**12**	**75**

Table No. 3 shows the authorship pattern of contributions (Volume- wise). Distributions of contribution by a single author in volume no. 7 indicate that the maximum percentage of single authors. Two author's contributions in volume no. 8 show the highest percentage. Table No. 3 & figure no. 3 indicates the majority of the contributions are contributed by single author. Where it is seen that "Majority of the contributions are contributed by two author" Table No.3

Figure no. 3 Authorship pattern of contributions
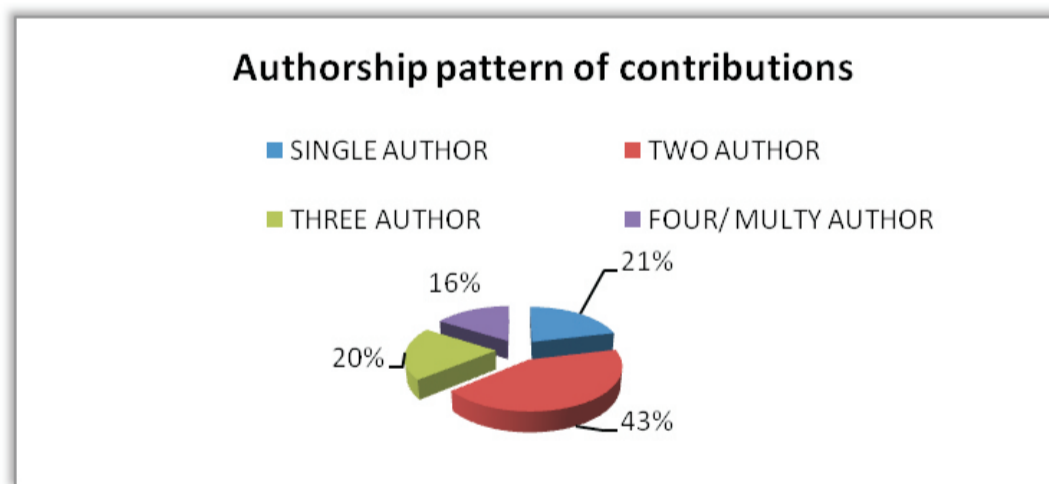
Degree of collaboration in the international journal of "Information Science & Technology" the formula given by k. Subramanyam is useful for determining the collaboration in quantitative terms. The study followed the same formula which is mathematically put as;

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

Where,
C= Degree of collaboration
NM= Number of multi authored papers
NS= Number of single authored papers
In the present study
NM= 47   NS= 16

$$\frac{12}{12+16} = \frac{12}{28} = 0.42$$

Those, C= 0.42

Thus the degree of collaboration if the international journal of "Information Science & Technology" is 0.4920 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

4.Year wise Degree of Collaboration

The Degree of collaborations is shown in Table No. 3

Table No. 4 shows the year is degree of collaboration.(Degree of collaboration Year-wise)

Degree of Contribution's (Year- Wise)							
Year	Total no. of article	Total no. of author	No. of single authored articles	% of article	No. Of multi authored articles	% of articles	Degree of collaboration
2009	15	15	5	6.67%	0	00.00%	0.00
2010	15	15	2	2.67%	0	00.00%	0.00
2011	15	12	4	5.33%	3	4.00%	0.42
2012	16	12	4	5.33%	4	5.33%	0.5
2013	14	9	1	1.33%	5	6.67%	0.36
Total	75	63	16	21.33%	12	16.00%	0.16 (Mean)

Table No. 4 shows that in the 5 years period, the two authorship articles are higher and predominant than multi author. The single authored articles are which are highest in the year 2009. It is the seen that the single authorship trend in Decreasing

Figure no. 4 Year wise Degree of Collaboration
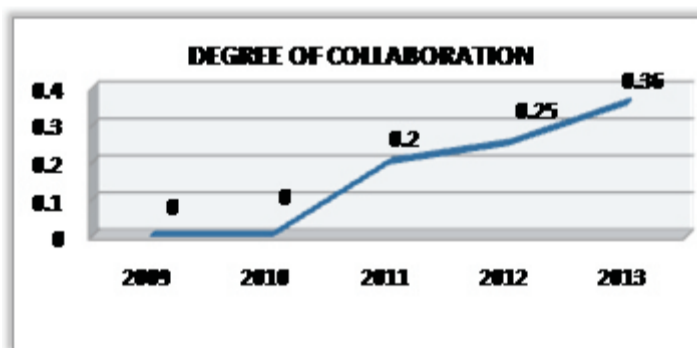
**5.Contributors (Institution wise)**

Distribution of institution wise contributors in shown in Table No. 5.

Table No. 5 shows the Contributions (Institution wise).

Contribution's (Institution- Wise)						
Volume No.	Year	University	Institution	College	Not Mention	Total
7	2009	23	5	0	0	28
8	2010	20	5	1	7	33
9	2011	24	8	1	0	33
10	2012	31	8	0	0	39
11	2013	31	1	0	0	41
Total		129	36	2	7	174

Table No. 5 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 (129) than institution wise (36) and (2) contributions were contributed by the colleges. Table No. 5 shows that the highest number of contributions are of university level. Were it is seen that the "the maximum numbers of contributions are of university level" Table No. 5

Figure no. 5 Contributors (Institution wise)
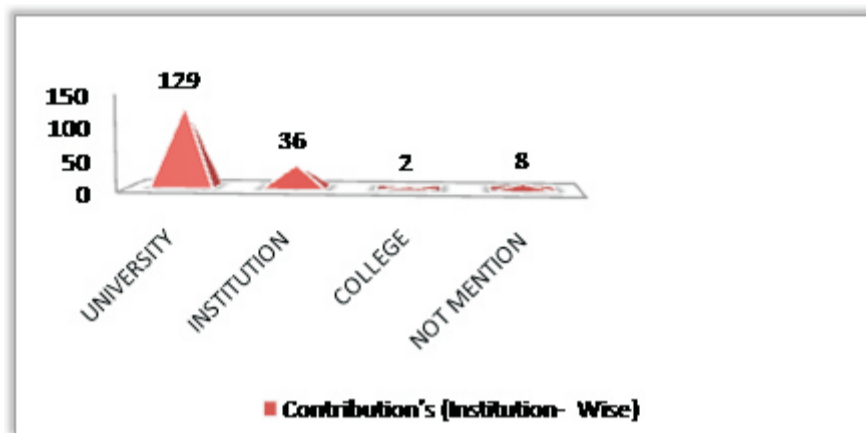
6. Geographical Distribution of contributions at international level

Geographical distribution of contributions at international level is shown in Table No. 6

Table No. 6 Geographical Distribution of contributions at international level

Geographical Distribution oOf Contributions at International Level			
Sr. No.	Name of country	No. of Contribution	Percentage
1	IRAN	125	71.84
2	LONDON UK	5	2.87
3	AFRICA	1	0.57
4	USA	1	0.57
5	MALASIYA	6	3.45
6	SWITZERLAND	1	0.57
7	GERMANY	2	1.15
8	YEMEN	2	1.15
9	INDIA	5	2.87
10	BANGLADESH	2	1.15
11	AUSTRULIA	1	0.57
12	NIGERIA	1	0.57
13	NOT MENTION	22	12.64
	Total	**174**	**100.00%**

Table No. 6 shows the Geographical distribution of contributions at international level. Table No. 6 indicates that the majority of the contributions where contributed by IRAN (71.84) were as the minimum contributions were contributed by (3.45)
Respectively

Figure no. 6 Geographical Distribution of contributions at international level
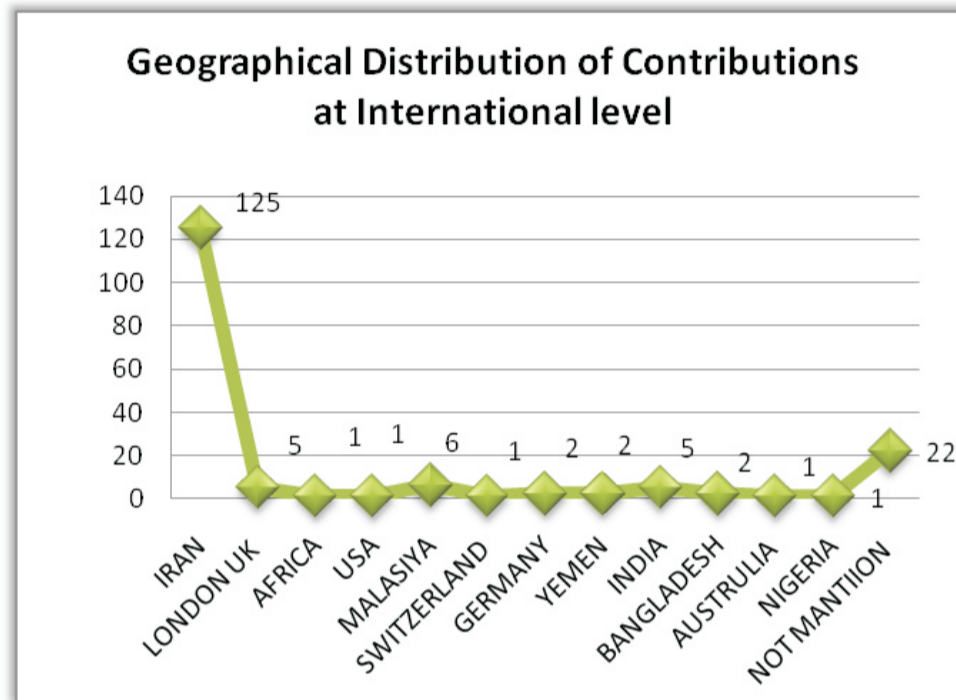

7.Types of publication cited (Volume wise)

Types of publication cited Volume wise is displayed in Table No. 7

Table No. 7 Types of publication cited (Volume wise)

Types of Publication Cited (Volume- Wise)				
Volume No.	Year	Books	Journals	Others	Total
7	2009	92	111	72	275
8	2010	43	106	53	202
9	2011	66	148	109	323
10	2012	57	171	69	297
11	2013	45	191	57	293
Total		303	727	360	1390
Percentage		21.50%	52.30%	25.90%	

Table No. 7 shows the types of publication cited volume wise. Of the total 75 contributions majority (52.30) of the citations are the Journal citations and minimum (21.50) are book citations. Were it is seen that the "The LIS professional make use of the journal articles the most" Table No. 7.

Figure no. 7 Types of publication cited Volume wise)
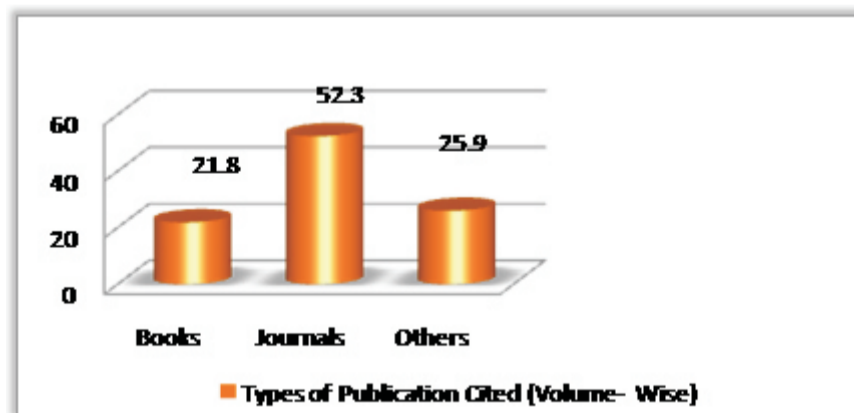
**8.Average citation per contribution in each volume**

Average citation per contribution in each volume is shown in Table No.8

Table No. 8 Average citation per contribution in each volume

Average Citation Per Contribution In Each Volume			
Volume No.	No. Of Contribution	No. Of Citation	Percentage
7	15	274	19.71
8	15	202	14.53
9	15	324	23.31
10	16	298	21.44
11	14	292	21.01
TOTAL	75	1390	100.00

Table No. 8 shows the average citation per contribution in each volume, total 75 contributions were contributed. Maximum numbers of citations were contributed by volume no. 9 (23.31) and the minimum (14.53) contributions were contributed by volume no. 8.

Table No. 8 Average citation per contribution in each volume
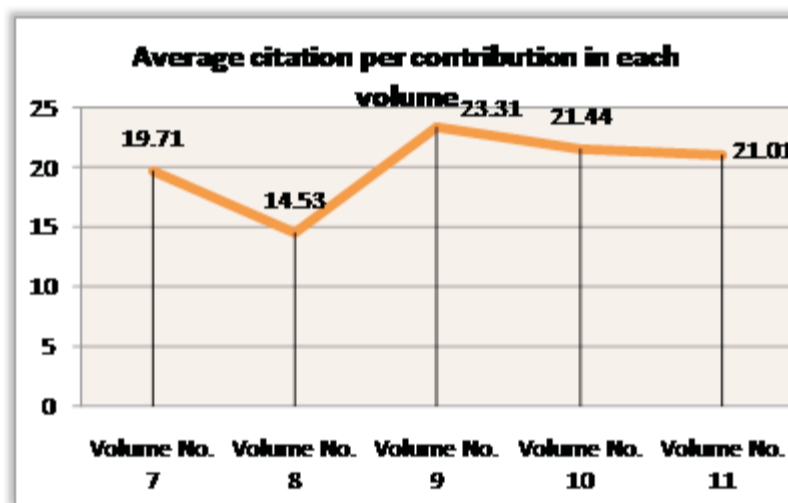
9.Average pages (per volume & per contributions)

Average pages (per volume & per contributions) in displayed in Table No. 9

Table No. 9 Average pages (per volume & per contributions)

Average Pages (Per Volume & Per Contribution)			
Volume No.	Total Pages	No. Of Article	Percentage
7	274	15	19.71%
8	202	15	14.53%
9	324	15	23.31%
10	298	16	21.44%
11	292	14	21.01
TOTAL	1390	1390	100.00

The Table No. 9 shows the average pages (per volume & per contributions). The maximum pages were covered in volume no. 9 (23.31) & minimum pages were covered in volume no. 8 (14.53).

FINDINGS & CONCLUSION

The findings are based on the analysis of collected data appended in 86 articles and 2844 references in Library Quarterly e-journals.

1.Distribution of contribution (Volume-Wise)
The total 75 contribution majority of the contributions i.e. 20 contributions were contributed in 2012 were as minimum

contributions i.e. 5 contributions were contributed in 2008 and 2012.

2.Authorship pattern of contributions

The Single author has contributed 54 (.9.71%) percent of the total articles. 18 (26.47%) percent of the contributions were contributed with two author. Three author has contributed 10 (22.06%) percent of the total articles and 4 (11.76%) percent of the contributions were contributed by four author. It also indicates that majority of the contributions are contributed by single authors. Were it is seen that the "Majority of the contributions are contributed by single author" (Table No.2).

3.Authorship pattern of Contribution (Volume-wise)

Distribution of contribution by a single author in volume No.78 indicates the maximum percentage of single authorship. Two author contributions in volume No. 78 & 81 show the highest percentage. Three author contributions in volume No. 80 show the highest percentage And four author contributions in volume No. 78, 79, 81, 82 shows the maximum percentage.

Table No.3 indicates the majority of the contributions are contributed by single author. Where it is seen that the "Majority of the contributions are contributed by single author" Table No.3, 2.

4.Year Wise Degree of Collaboration

The single authorship articles are higher and predominant than multi author. The multi authored articles are almost same in all years. The single authored articles are 15 (39.71) which are highest in the year 2008. It is seen that the single authorship trend is increasing.

5.Contributors (Institution Wise)

The university wise contribution is maximum (69) contributions is contributed. 3 contributions were contributed by institution wise. And 6 contributions were contributed by the colleges. 8 contributions are not mentioned. Above Table No.5 shows the highest number of contributions is university level. Where it is seen that the "The maximum numbers of contributions are of university level" Table No.5.

6.Geographical Distribution of Contributions at international level

The majority of the Contributions contributed by USA which are 51 (59.30%) percent of the total Contributions were as the minimum Contributions were contributed by 4 countries which are percentage each 0.90%.

7.Types of publication cited (Volume-Wise)

20 issues of five volumes of the electronic journal constrained 2844 citations. The total 86 contributions majority of the citations cited by the journal and minimum citations are cited by other sources. Where it is seen that the. "The LIS professional make use of the journal articles the most" Table 7.

8.Average citation per contribution in each volume

The out of total 86 contributions were contributed. Maximum No of citations were contributed in volume No. 79 (28.09%) And the minimum 5 (3.73%) percent contributions were contributed by volume No. 25.

9.Average pages (Per volume and per contributions)

The table No. 9 shows the average pages (per volume and per contributions). The maximum pages were covered in volume No. 79 (20.08%). And minimum pages were covered in volume No. 103 20.60%) out of the total contributions.

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.

The Library Quarterly is quarterly journal published in the year 1993. It was founded EBSCO. A Scientometrics analysis is the technique of Bibliometrics used to measure the impact of individual online journal.

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