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Bibliometric Analysis of Srels Journal of Information Management (2000-2013)

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Abstract: *The bibliometrics analysis of the journal "SRELS journal of information management (2000-2013)" shows a trend of growth in contribution and average number of contribution is 44.78 per volume. Majority of the library and information scientists prefer to do collaborative research and contribute their papers jointly. Majority of the library and information scientists have cited journals in large number 2900 (40.57%) while books comes on second with 2090 (29.24%) citations.*

Keywords: *Bibliometric, citation analysis Authorship trend, library and information science, collaborative research*

I. Introduction

The term bibliometrics was first used by Alan Pritchard in 1969 and defined it as study of the "Application of Mathematics and Statistical methods to books and other media of communication." Bibliometric is a quantitative evaluation of publication pattern of all micro and micro communication along with their authorship by mathematical and statistical calculation. Bibliometrics can be applied to any subject area and to most of the problems concerned with written communication.

Objectives

The main objectives of this study are:

1. To find out year-wise distribution of publication.
2. To find out the authorship pattern.
3. To find out the volume-wise degree of collaboration.
4. To obtain the form at dispersion of references in SRELS journal of information Management.
5. To find out average number of contributions per volume.

Review of Literature

1. Dixit and Katare (2007) studies the collaborative research trend in the field of cotton science. Observations are based on the ten year data (1996-2005). Collected from the journal of the Indian Society for Cotton Improvement (ISCI journal). Readings show that the number of multi-authored paper (91.04%) surpassed the single authored papers (8.95%). The degree of collaboration in the field of cotton science is 0.91. The study reinforces the fact that scientific research is group oriented.
2. Rana and Agarwal (1994). Studied the paper on authorship trends in Indian Wildlife and Fisheries. State that the degree of collaborative research and the average number of anthers per paper have a steady rise.
3. Visakhi and Srivastava (2002). Studied the paper on research trends in the field of statistical science also endorse the same view. As per their observations. The percentage of multi anthors has raised from 18.34% in 1965 to 65.45% in 2000.
4. Sentilkumaran and Vedivel (2003). Studied the journal "spice India' from 1997-2001. His finding shows that one anther contribution is 51.29 and three and more than three contributions are only 15%. In case of length of articles, 1-3 pages contribution was 82.84%. This trend indicated that most of articles were popular statistical reports which were very helpful to planters/farmers in spice crop cultivation.

II. Methodology

A total of 62 issues of the journal SRELS journal of information Management a leading journal of library and information science (2000-2013) was selected. Its publication was started in 1964 with four issues in a year. This journal is published by Sarda Ranganathan Endowment for library science Bangalore. The study of Bibliometric in this journal was evaluated from vol. 37 to 50 (2000-2013). Each of vol. (i.e. 27 to 46) was published in 4 issues in a single year but vol. 46 (2010) had published in 6 issues in a year.

The details regarding each published article such as title of the article, number of authors, number at reference, number of tables and figures etc. were recorded and analyzed for waking observations. Tables are

filed by tally mark system counting one by one reference and after data. The data has been calculated and represented in table.

III. Data Analysis and interpretation

1. Distribution of contribution

Table – 1 Volume wise Distribution of Contribution

Sl. No.	Year	Vol. No.	No. of issues	No. of cont.	%
1	March 2000- Dec.2000	37	04	22	3.50%
2	March 2001- Dec.2001	38	04	36	5.74%
3	March 2002- Dec.2002	39	04	39	6.22%
4	March 2003- Dec.2003	40	04	35	5.58%
5	March 2004- Dec.2004	41	04	38	6.06%
6	March 2005- Dec.2005	42	04	37	5.90%
7	March 2006- Dec.2006	43	04	34	5.42%
8	March 2007- Dec.2007	44	04	36	5.74%
9	March 2008- Dec.2008	45	04	49	7.81%
10	March 2009- Dec.2009	46	04	44	7.01%
11	March 2010- Dec.2010	47	04	62	9.88%
12	March 2011- Dec.2011	48	06	62	9.88%
13	March 2012- Dec.2012	49	06	64	10.20%
14	March 2013- Dec.2013	50	06	69	11.00%
14 Year		**14 Vol.**	**62**	**627**	**100%**

Graph showing volume wise, contributions this graph shown that the numbers of contribution are increasing day by day in later volumes of the journal. Most significant part of this chart is that it is showing a continues growth in the publication of contributions volume by volume.

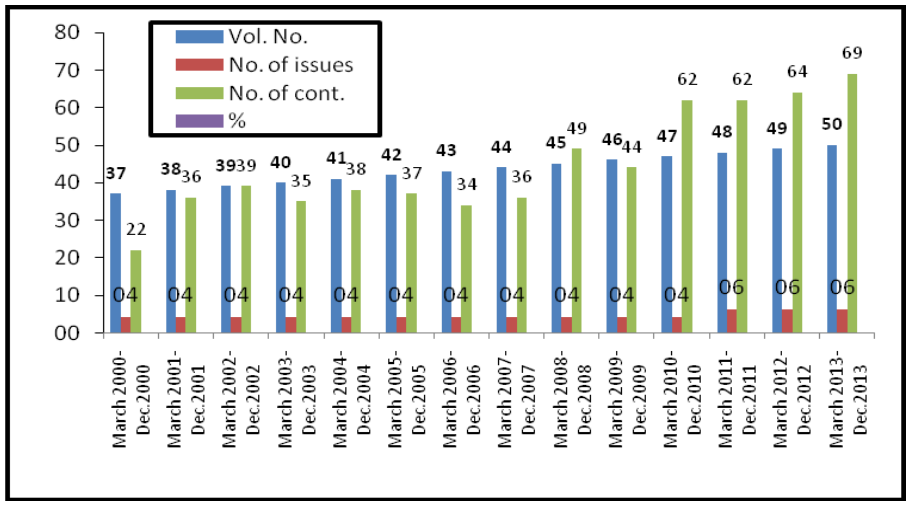


Table – 2 Authorship pattern of contribution

No. of Authors	No. of contributions	%
One	234	37.32%
Two	312	49.76%
Three	64	10.20%
More then Three	17	2.71%
Total	**627**	**100%**

Growing showing Authorship Pattern

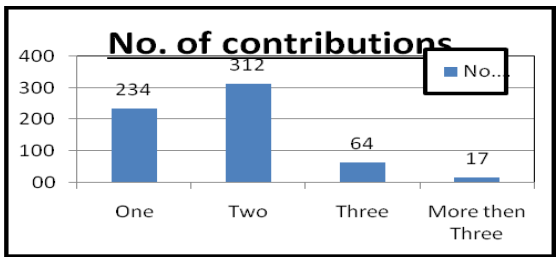
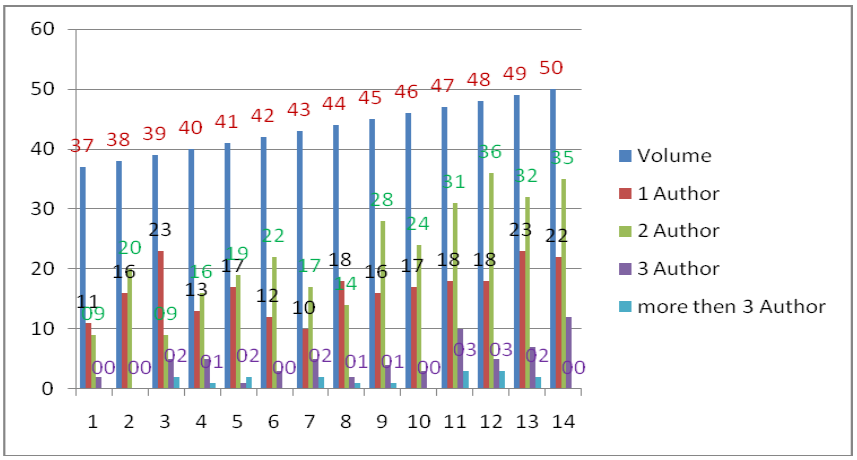


Table-2 shows that the contributions of double authors are more than those of single, triple or more Than triple authors. The multiple authorship pattern has the most productive publication i.e. 393 (63.30%) papers while the single authorship pattern has 234 (37.32%) papers. The multiple authorship patterns are further analyzed to shed more light on the pattern of collaboration. Publication with two authors are 312 (49.76%) paper followed by three authorship pattern with 64 (10.20%) paper and, more than three authorship pattern have 17 (2.79%) papers.

Table-3 Authorship pattern at contributions (volume-wise)

Volume	1 Author	%	2 Author	%	3 Author	%	more then 3 Author	%
37	11	4.70%	09	3.84%	02	3.12%	-	-
38	16	6.83%	20	6.41%	-	-	-	-
39	23	9.82%	09	3.84%	05	7.81%	02	11.76%
40	13	5.55%	16	5.12%	05	7.81%	01	5.88%
41	17	7.26%	19	6.08%	01	1.56%	02	11.76%
42	12	5.12%	22	7.05%	03	4.68%	-	-
43	10	4.27%	17	5.44%	05	7.81%	02	11.76%
44	18	7.65%	14	4.48%	02	3.12%	01	5.88%
45	16	6.83%	28	8.97%	04	6.25%	01	5.88%
46	17	7.26%	24	7.69%	03	4.68%	-	-
47	18	7.69%	31	9.93%	10	15.62%	03	17.64%
48	18	7.69%	36	11.53%	05	7.81%	03	17.64%
49	23	9.82%	32	10.25%	07	10.93%	02	11.76%
50	22	9.40%	35	11.21%	12	18.75%	-	-
TOTAL	**234**	**100%**	**312**	**100%**	**64**	**100%**	**17**	**100%**



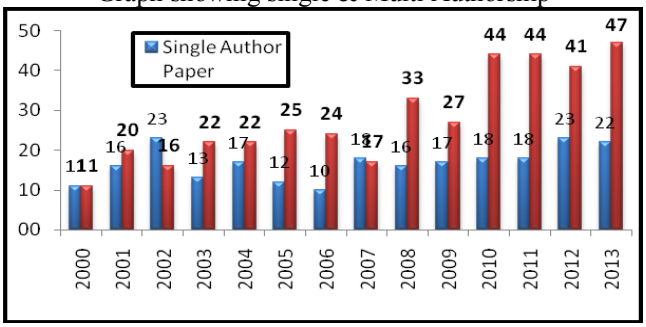
The above table shows the trends in authorship pattern, as multi authored papers are leading in frequency of occurrence in the journal "SRELS Journal information Management." Throughout the study and more interestingly this growth is continuous which indication about the future pattern in authorship.

The highest numbers of contributions in the category of single authorship are contributed in 2002 and 2012 which are 23 (9.82%) out of 234 single authored paper while in the category of multi authored papers the highest number of contributions are contributes in the year 2006 having 36 (11.53%) contributions out of 312 contributions.

Table – 04 Single authored V/s Multi Authored paper.

Year	With Single Author		With Multi Author		Total contribution
	No. of Papers	%	No. of paper	%	
2000	11	4.70%	11	3.52%	22
2001	16	6.83%	20	6.41%	36
2002	23	9.82%	16	5.12%	39
2003	13	5.55%	22	7.05%	35
2004	17	7.26%	22	7.05%	39
2005	12	5.12%	25	8.01%	37
2006	10	4.27%	24	7.69%	34
2007	18	7.65%	18	5.44%	36
2008	16	6.83%	33	10.57%	49
2009	17	7.26%	27	8.65%	44
2010	18	7.69%	44	14.10%	62
2011	18	7.69%	44	14.10%	62
2012	23	9.82%	41	13.14%	64
2013	22	9.40%	47	15.06%	69
TOTAL	**234**	**100%**	**393**	**100%**	**627**

Graph showing single & Multi Authorship



The above graph shows that in every volume of the journal "SRELS journal of information management", the number of multi authored papers are dominating to single authored papers. The overall multi authored paper are more than two time, of single authors papers. It reveals that now the library and information science field is heavily influence by the collaborative research.

IV. Degree of Collaboration :

The degree of collaboration among authors is measured by The following for mula given by K. Subramanyam:

$$C = \frac{Nm}{Nm + Ns}$$

Where,

C = Degree of collaboration

Nm = Number of multi authors contribution

Ns = Number of single Authored contributions.

In the present study the value of C is

$$C = \frac{393}{393+234} = \frac{393}{627} = 0.62\%$$

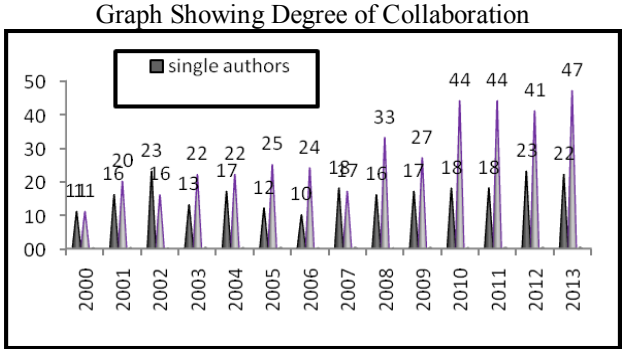
Thus the degree of collaboration in the journal "SRELS journal of information management is 0.62, this brings out clearly the prevalence of team research in library and information science field. The distribution of degree of collaboration over the year from 2000 to 2013 is presented in table-5.

Table – 5 yearwise distribution of Degree of Collaboration

Year	single authors	multi authors	degree of collaboration
2000	11	11	0.50
2001	16	20	0.55
2002	23	16	0.41
2003	13	22	0.62
2004	17	22	0.59
2005	12	25	0.67
2006	10	24	0.50
2007	18	18	0.67
2008	16	33	0.50
2009	17	27	0.67
2010	18	44	0.61
2011	18	44	0.70
2012	23	41	0.64
2013	22	47	0.68
TOTAL	**234**	**394**	**08**

It is very interesting to record that the degree of collaboration in the journal "SRELS journal of information Management." over the period of study varied from 0.50 to 0.70.

Graph Showing Degree of Collaboration



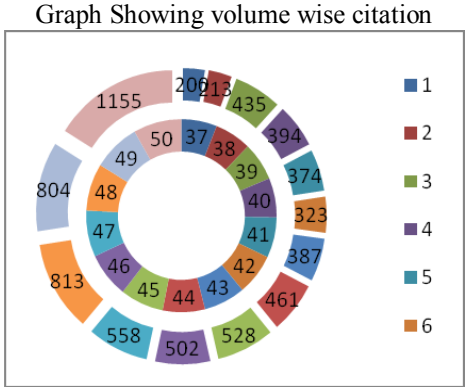
This graph shows the distribution of degree of collaboration over 2000 to 2013 in the journal "SRELS journal of information is highest in the year 2010 & 2011 while it is lowest in the year 2000 and 2006.

V. Citation Studies:

Distribution at citations (Volume-wise)

Volume No.	No of Citations	%
37	200	2.79%
38	213	2.98%
39	435	6.08%
40	394	5.51%
41	374	5.23%
42	323	4.51%
43	387	5.41%
44	461	6.45%
45	528	7.38%
46	502	7.02%
47	558	7.80%
48	813	11.37%
49	804	11.24%
50	1155	16.16%
TOTAL	**7147**	**100%**

Graph Showing volume wise citation

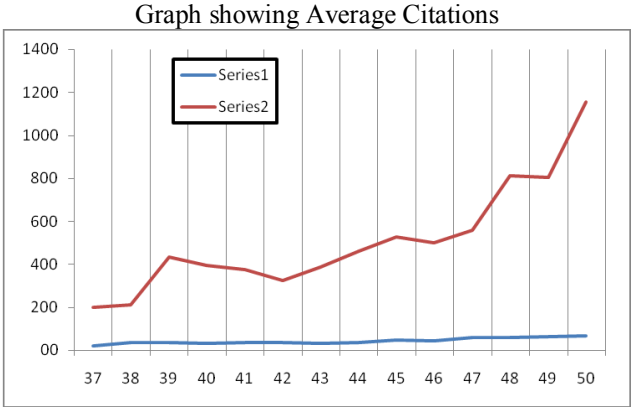


The above figure shows that volume 50 has highest number of share (16.16%) in the total citation i.e., 7147 received during the study. While teast citation has been received in volume number 37 with 2.79% citations. Tatol 7147 citation have been recorded in 627 contributation therefore the average number of citation per contribution is 11.39 which is good enough.

Table – 7 Average Citations per Contribution in each Volume.

Volume No.	No. of Contribution	No. of Citation	Average
37	22	200	9.09%
38	36	213	5.99%
39	39	435	11.15%
40	35	394	11.25%
41	38	374	9.84%
42	37	323	8.72%
43	34	387	11.38%
44	36	461	12.80%
45	49	528	10.77%
46	44	502	11.40%
47	62	558	9.00%
48	62	813	12.90%
49	64	804	12.56%
50	69	1155	16.73%
TOTAL	**627**	**7147**	**11.39%**

Graph showing Average Citations



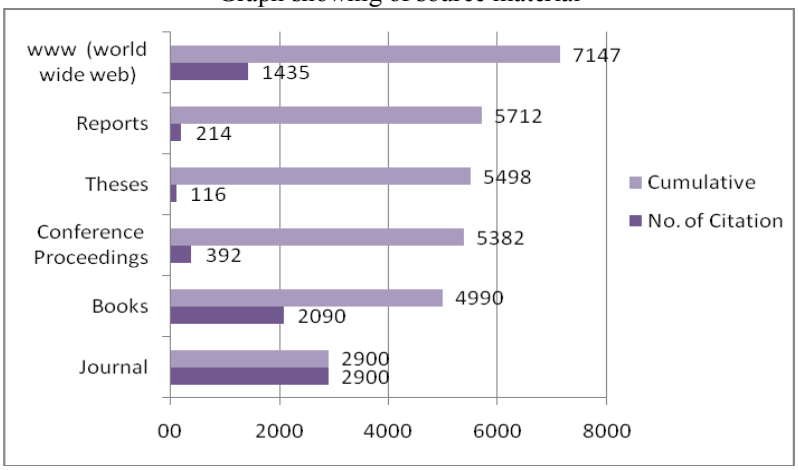
VI. Bibliographical distribution

Table – 8, Types of publication cited

Types of publication Cited	No. of Citation	%	Cumulative	%
Journal	2900	40.57%	2900	40.57%
Books	2090	29.24%	4990	70.51%
Conference Proceedings	392	5.48%	5382	75.30%
Theses	116	1.62%	5498	77.69%
Reports	214	2.99%	5712	79.92%
Www (world wide web)	1435	20.07%	**7147**	100%
TOTAL	**7147**	**100%**		

Table-8, Shows that journals occupy 40.57% citations which are in number 2900 out of total 7147 citations. Books have 2090 (29.24%) citations. conference proceeding out of total 7147 citations. Theses have total 116 (1.62%) citations in its account out of total 7147, Report have 214 (2.99%) citations. World Wide Web have 1435 (20.07%) citations in its account out of total 7147.

Graph showing of source material



This graph shows that journal is leading in all the sources cited by the anthors during the research articles writing and other research Proparation. Books are second highest cited items followed by the conference proceeding having 392 (5.48%) citation. Web resourcses (www) have 1435 (20.07%) citations.

VII. Results and findings

The following results and conclusions can be drawn from the bibliometric analysis of the journal "SRELS journal of information management (2000-2013)".

- This study shows a trend of growth in contributions published during 2000 to 2013 and average number of contribution per volume 44.78.
- Majority of the library and information scientists prefer to contribute their papers jointly.
- Majority of the library and information scientists have cited journals in large number 2900 (40.57%) while books comes on second with 2090 (29.24%) citations.
- Most of the contribution are with citations. Only one contribution is found with citation out of total 627 contributions.

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