

## E-Journals in Library and Information Science: A Bibliometric Study

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### Abstract

*Bibliometrics is the most active field of "Library and Information science." Bibliometric study of electronic journals in Library and information science is the major portion of it. It is traditionally associated with the quantitative measurement of document materials or referred. The study is limited to 1147 articles of total 36498 references. Total 180 issues of 5 E-journals in Library and Information Science namely ASLIB proceeding, Library High Tech, Library Review, Online Information Review, New Library World from 2005-2009 was under taken for the present study. The E-journals which are scholarly peer received were only selected for the present study. In order to perform quantitative analyses the present study considered only articles published in these E-journals during 2005-2009 that reported the results. Articles classified as Editorial Material, Power Point Slides of Conference, Book Reviews, Columns, Reports were not considered for the analysis. In the study of bibliometric study of e-journals 1147 articles were published in 180 issues on an average of 35 articles per issues. Average articles per issue have been found to be highest in 2007. Male have dominance in the contribution of articles in publication in the field of Library and Information Science. The trend in total authorship for both men and women from 2005 to 2009 appears to be a slight bias against women and in favour of male authors, among 981 male author 47.40 percent (465) male author publish their articles in their own capacity. The highest percentage of international contribution has been observed in LHT (98.21) and it was lowest in the case of ASLIB (1.15). New Library world ranked second.*

**Key Words:** Bibliometrics , E- Journals , Library and Information science.

### 1.1 Introduction

Bibliometrics is the most active field of "Library and Information science." Bibliometric study of electronic journals in Library and information science is the major portion of it. It is traditionally associated with the quantitative measurement of document materials (Wormew, I 1998.)

**1.2 Bibliometrics** is of recent origin and relatively a new one, In information science it is now being vigorously pursued and with the result it has been found that one –forth of all the articles published in Library and information science periodicals are on Bibliometrics and its related topics. (Pritchard, Alan and witting, 1960) The study was taken up with the objective of analyzing Authorship Pattern, Growth of Literature and Distribution of Publication in Different Periodicals. Attempt was also made to identify core journals and to quantity growth and diversification in various facts of research journal.

### 1.3 OBJECTIVES OF THE STUDY

The main objective of the present study is:-

- 1 To analyze year wise growth of issues and articles.
- 2 To find out authorship pattern of author in open access articles.
- 3 To analyze gender wise distribution of authors.
- 4 To analyze position wise distribution of authors according to their gender.
- 5 To find out authors, productivity.
- 6 To find out prolific authors.
- 7 To find out types of institutions and their involvement in publication.
- 8 To find out prolific institutions and their involvement in publication.
- 9 To find out the pattern of collaborative research.
- 10 To find out geographical distribution of articles.

- 11 To find out the county of origin of articles
- 12 To find out frequency of international authors.
- 13 To find out journal wise quantity of articles index broad subject heading.
- 14 To find out the pattern of cited references in library and information science open access articles.

#### 1.4 SCOPE AND LIMITATION

The study is limited to 1147 articles of total 36498 references. Total 180 issues of 5 E-journals in Library and Information Science namely ASLIB proceeding, Library High Tech, Library Review, Online Information Review, New Library World from 2005-2009 was under taken for the present study.

The E-journals which are scholarly peer reviewed or referred are only selected for the present study.

#### 1.5 METHODOLOGY

The present study entitled, 'Bibliometric study of electronic journals in Library and Information Science.

The electronic journals which are scholarly peer reviewed or referred are only selected for the present study.

In order to perform quantitative analyses the present study considered only articles published in these E-journals during 2005-2009 that reported the results. Articles classified as Editorial Material, Power Point Slides of Conference, Book Reviews, Columns, Reports were are not considered for the analysis.

The data was collected from the articles and the bibliographical entries listed at the end of the theses which was used by the researcher for completing the research.

#### 1.6 DATA COLLECTION

According to ALA world [Encyclopedia of Library and Information Science-1972]. In any research process the data is not readily available than one should required to collect the necessary data. For collection of data the name of the author, designation ,Name of the institution and place were taken into consideration where as the reference of each issue of journals were photocopied for analysis purpose.

#### 1.7 DATA ANALYSIS

Analysis of information or data is one of the important part of any study.

The main aim of the study is to collect the information or data from electronic journals. In all the total references were 36498 appended to 1147 articles during 2005 to 2009. in the ASLIB proceedings, Library High Tech , Library Review, online Information Review, New Library World E-journals..The data was analyzed manually and was presented in tabular and Graphical form.

#### 1.8 Review of Literature

Bibliometric Study on different journals in LIS was done by Baby, M. D,1995; Meera , B. M,1998;Agashe,PrinceAjayKumarTejram,(2009);Surati,Daksha,(2000);Kannappanavar,B..U,(1991);Temjen,T,(2003);Mohd.Yusuf,(2003);Purushotama Gowda ,M,(2005),Rewadikar, Shalini ,(1985);

The present study is based on 5 electronic journals. The data was analysed by using various parameters which is presented in the form of tables.

##### 1. The Year wise distribution of issues and articles.

As per the table No1, 35 articles per issue ie 180 issues on an average have been found to be highest in 2007 .

**Table No.1: Year wise distribution of issues and articles**

Rank	Name of the Journals	2005		2006		2007		2008		2009		Ti	Ta	API	%
		TI	TA	TI	TA	TI	TA	TI	TA	TI	TA				
1	AP	6	48	6	64	6	46	6	38	6	37	30	233	7.7	20.31
2	LHT	4	40	4	44	4	48	3	32	4	48	19	212	11.15	18.48
3	LR	9	53	9	52	9	68	9	52	9	49	45	274	6.0	23.88
4	OLIR	6	34	6	39	6	49	6	45	6	52	30	219	7.3	19.09
5	NLW	12	42	12	42	12	47	8	31	12	47	56	209	3.73	18.22
	<b>Total</b>	37	217	37	241	37	258	32	198	37	233	180	1147	35.88	100

TI= total issues, TA= Total Articles, API= Articles per issue, %= percentage of Articles out of Total Articles.

In 2005, a total of 217 articles were published which rose to 258 in 2007. From 2005 by an average of 20 items.

## 2 Authorship pattern and quantity of authors in E- Journal articles

The number of author per articles ranges in corporate rather than human authors were indicated articles (54.75%) were by single authors. Which were maximum in number.

**Table No. 2 : Authorship pattern and quantity of authors in E- Journal articles**

Journal name	Single author		Two authors		More than two authors		Total articles	Total authors	Average authors per articles
	Number	Percent	Number	Percent	Number	Percent			
AP	100	51.88	90	42.45	12	5.66	212	247	1.16
LHT	109	46.78	96	41.20	28	12.02	233	200	0.85
LR	116	55.23	80	38.09	14	6.66	210	89	0.42
OLIR	200	74.07	40	14.81	30	11.11	270	157	0.58
NLIN	93	41.90	89	40.09	40	18.01	222	90	0.40
	628	54.90	395	34.43	124	10.81	1147	786	0.68

The number of articles written by two authors and more than two authors were 395 (34.43) and proved thod the trend of library and information science (Hypothesis No-1, Table No-2)

## 3 Gender wise Distribution of authors

As per Table No3 981(66.28%) Authors were male and 499 were female.

**Table No:3 Gender wise Distribution of authors**

Journal	Articles	Male		Female		Total
		Number	Percent	Number	Percent	
AP	212	150	71.42	60	28.57	210
LHT	233	198	66.44	100	33.5	298
LR	210	208	73.49	75	26.50	283
OLIR	270	215	57.02	102	42.97	377
NLW	222	210	67.30	102	32.69	312
Total	1147	981	66.28	499	33.71	1480

At individual journal level, in most of the cases the percentage of contributions by male authors was higher than those by female authors except in top journals where the contributions by male author were predominant which were LR. 208 (73.49%), AP 150 (71.42%), and NLW 21 (67.30%)

## 4 Positions of Authors in Articles

The table No.4 reveals that the trend in total authorship for both men and women from 2005 to 2006. It appears in to be a slight bias against women and in favour of male authors among 981 male authors, 465 (47.40) male authors published their articles in their own capacity.

**Table No: 4 Position of Authors in Articles**

Journal	Male				Female				Grand Total
	Single	First	Other	Total	Single	First	Other	Total	
AP	75	35	40	150	40	15	5	60	210
LHT	100	40	58	198	50	35	15	100	298
LR	100	8	100	208	35	15	25	75	283
OLIR	80	80	55	215	40	72	50	102	377
NLW	110	50	50	210	80	08	14	102	312
Total	465	213	303	981	245	145	109	499	1480
Percent	47.40	21.71	30.88	100	49.09	29.05	21.84	100	

Among 499 female authors Total 245 (49.09%) female authors published their articles in their own capacity.

## 5 Author productivity of articles published by single articles

**Table No 5: Author productivity of articles published by single articles**

Articles	Authors	Distribution of articles		>3 journal
		Single journal	Two journals	
25	17	1	1	-
15	8	2	4	-
10	2	1	-	-
12	7	5	-	-
8	1	0	-	-

There are perhaps slightly more first time and slightly fewer very highly productive authors. The table no. 5 indicates the number of authors contributing one article, two articles and so on and the distribution of their articles in journals.

### 6 Prolific authors in library and Information science E- journals

The first position with a contribution of 110 articles, i.e. 80 in OLIR and 30 Library Review.

**Table No 6: Prolific authors in library and Information science E- journals**

Author	Total Articles	Single	Authorship Joint	Distribution in Journals
Hans Jon Nielsen	110	80	30	80 OLIR, 30LR
Andrew Boyd	50	30	20	30 NLW, 20LHT
Nancy M.Bolt	48	38	10	38LR, 10NLW
Jim Agee	40	35	5	35LHT, 5ASLIB
Ian Rowland's	15	10	5	10ASLIB, 5LR

The total 263 publications, some publication appeared in joint authorship and some appeared single, most of the articles appeared in mostly two electronic journals only.

### 7 Prolific Journals in library and Information science E- journals

It is clear from Table No.7 that authors from academic institutions contribute highest percentage (61.29%) of articles than those from organizations (17.26%)

**Table No: 7 Prolific Journals in library and Information science E- journals**

Journal	TA	A	O	I	C	A+O	A+C	NA
AP	212	200	8	1	1	2	-	-
LHT	233	133	25	50	15	3	2	5
OLIR	270	160	10	75	10	5	10	-
LR	210	110	80	5	10	5	-	-
NLW	222	100	75	25	5	10	5	2
<b>Total</b>	1147	703	198	153	41	25	17	7
<b>Percent</b>		61.29	17.26	13.90	0.35	0.21	0.14	0.06

Legends :- TA : Total Articles, A: Academic, O: organization, C: Commercial, A+o: Academic organizational, A+c: Academic + commercial, NA: Not available in text.

In 1147 articles (61.29%); author mentioned their professional status but did not mention the institutions to which they belonged where as in 7(0.66) articles no such information was available.

### 8 Prolific institutions and their involvement in publication

**Table No: 8 Prolific institutions and their involvement in publication**

Name of the institution	Number of articles	Distribution in journals
University of Wellington	60	30NLW, 20LR, 10LHT
University of Sheffield, U.K.	42	10ASLIB, 20LHT, 12LR
University of Strathcyde	70	30LHT, 20LR, 10NLW, 10ASLIB
Colorado state University	30	10LR, 8NLW, 2LHT, 10ASLIB
Quinnipiac university, USA	22	12ASLIB, 8LHT, 2LR

The results as indicated in the above table No.8 shows that University of Wellington ranks first.

## 9 Pattern of collaborative research

**Table no: 9 Pattern of collaborative research**

Journal	Joint authors	Same institutes	Number of articles in Different institutes of same country	Different institutes of different countries
ASLIB	100	87	3	10
LHI	98	56	40	2
LR	125	70	20	35
OLIR	98	70	10	18
NLW	75	35	30	10
<b>TOTAL%</b>	<b>496</b>	<b>318(64.11)</b>	<b>103 (20.16`)</b>	<b>75(15.12)</b>

As indicated in Table No.9 of the total 496 joint author articles majority of the articles i.e. 318 (64.11%) have been published by more than one author from same institutions where two or more than one country was 75 (15.12%).

## 10 Appearance of continent name in articles.

**Table No: 10 Appearance of continent name in articles.**

Rank	Continents	Counts	Percentage
1	South America	870	53.17
2	Africa	110	6.72
3	Europe	475	29.03
4	North America	98	5.99
5	Oceania	83	5.07
	<b>Total</b>	<b>1636</b>	<b>100</b>

Most articles enlist the author's affiliations with their complete address. The geographic area from which the author submitted his or her work was identified. The continents represented are listed in this table No.10

Highest member i.e. 870 of publications was reported from Africa(110), north America (98), Oceania (83) of publication respectively

## 11 Percentage of share of international authors

Table no. 11 shows that the highest percentage of international contribution has been observed in LHT 110 (98-21).

**Table No: 11 Percentage of share of international authors**

Journals/ country of origin	Year of initiation	Total authors	International authors	Percentage of International authors.
ASLIB	2008	86	99	1.15
LHT	2008	112	110	98.21
LR	2008	109	81	74.31
OLIR	2008	45	35	77.77
NLW	2008	76	65	85.52
<b>Total</b>	<b>2008</b>	<b>428</b>	<b>390</b>	<b>91.12</b>

And it was lowest in the case of ASLIB 99 (1.15) NLW ranked second with 65 (85.52) percent, OLIR 35 (77.77%) and ranked third LR 81 (74.31) Ranked in fourth position. It can be said that an older an e-journal, the broader is its author pool with more contributions.

## 12 Journal wise quantity of articles under broad subject headings

**Table No: 12 Journal wise quantity of articles under broad subject headings**

Name of subjects	Quantity of articles	Distributions in journals
authorship data, Lotka's law and research productivity	50	30 LR, 20 NLW, 10 ASLIB
Beyond HTML, Developing and re-imagining library web guides in a content Management system.	100	40 LHT, OLIR 30, 30LR, 10 NLW
The strategic evaluation of academic libraries	55	25 LR, 20 NLW, 10 OLIR
A map for the library portal through the labyrinth of information sources	88	48 OLIR, 20 LHT, 20 ASLIB
New media and new roles of librarianship	90	30 NLW, 30 OLIR, 20 LR, 10 ASLIB

The coverage of subjects for the period 2005-2009, was quite impressive in these 5 Journals. Almost all aspects of librarianship have been reported in these journals unique subject headings were assigned to all articles for this period irrespective of journal the authorship data (374 Articles). The strategic evaluation of academic libraries (487) articles.

### 13. Pattern of cited references in library and information science articles

As per the Table No. 13 the cited references available in articles were scanned thoroughly and the functionality of hyperlinked references was examined manually. The distributions of cited references hyperlinked references and live hyperlinked references are shown were in table No- 14 out of 1147 articles, 14 (1.22) articles without any references. Pattern of cited references in library & information science articles

**Table no: 13 Pattern of cited references**

Journal	Articles	Articles without references	Number of cited references	Reference per articles	Hyperlinked references	Percentage of hyperlinked references	Live Hyperlinked references	Percentage of live hyperlinked references
AP	233	4 (1.71)	8957	38.44	510	5.70	86	16.36
LHT	212	2 (0.94)	1015	47.87	220	21.67	90	40.90
LR	274	1 (36.49)	15688	57.25	175	1.11	105	60.00
OLIR	219	0 (0.0)	9713	44.35	1203	12.38	410	34.08
NLW	209	7 (3.34)	1125	53.52	844	75.02	670	79.38
TOTAL	1147	14 (1.22)	36498	31.82	2952	8.08	1361	46.10

Average Cited references per articles in 5 journals were 31.82 during 2005-2009 of the total cited references, 8.08 % references were hyperlinked. The percentage of live hyperlinked references was 46.10 percent where it can be said that the authors of the e-journals used a comparatively higher number of hyperlinked resources.

### CONCLUSIONS

#### 1. Year wise distribution of issues and Articles:

1147 articles were published in 180 issues on an average of 35 articles per issues. Average articles per issue have been found to be highest in 2007. In 2005 total of 217 articles were published which rose to 258 in 2007. From 2005 to 2006, the number of articles published increased by an average of 20 items.

#### 2. Authorship pattern and quantity of author in articles:

The number of articles written by two authors and more than two authors were 395 (34.43) and 124 (10.81) respectively.

#### 3. Gender wise Distribution of Authors:

981 (66.28%) of them were male and 499 (33.71%) were female where we can say that Male have dominance in the contribution of articles in publication in the field of Library and Information Science.

**4 Position of Authors in Articles**

The trend in total authorship for both men and women from 2005 to 2006 appears in to be a slight bias against women and in favour of male authors among 981 male authors, 465 (47.40) male authors published their articles in their own capacity.

**5 Author productivity of articles published by single articles:**

Author productivity is defined as the number of papers an authors has published within a given duration. In fact, assessing the importance of multiple authorship is problematic.

**6 Prolific Authors in Library and Information Science E Journals:**

Ian Rowlands occupies the first position with a contribution of 15 articles, of these 15 articles, 10 articles were published in ASLIB. The total 263 publications, publication appeared in joint authorship 70 and publication single 193 most of them appeared in mostly two e-journals.

**7 Types of institutions and their involvement in Publication:**

From table No 7 it is clear that authors from academic institutions contribute highest percentage (61.29%) of articles than those from organizations (17.26%) or commercial bodies (0.35%). In 156 articles (13.60%) authors mentioned their professional status but did not mention the institutions to which they belonged where as in 7 (0.66) articles no such information was available.

**8 Prolific institutions and their involvement in publication:**

The result as indicated in the above table looks promising on the account that although articles from academic institutions were more prominent authors from almost all types of institutions world wide are showing internet in publishing articles on journals.

**9 Pattern of collaborative research**

As indicated of the total 496 joint author articles majority of the articles i.e. 318 (64.11%) have been published by more than one author from some institutions where as 103 articles (20.16%) have been published by two or more than one country was 75 (15.12%).

**10 Appearance of continent name in articles**

Higher number i.e. 870 (53.17%) of publications was reported from South America and the least number i.e. 83 (5.07%) of publications was reported from Oceania.

**11 Country of origin of articles**

The remainder came from 11 different countries it suggest that the authorship distribution was uneven in open-access electronic journals.

**12 Percentage of share of International authors**

The highest percentage of international contribution has been observed in LHT (98.21) and it was lowest in the case of ASLIB (1.15). New Library world ranked second with affinity (85.52) percent, OLIR (77.77) third with affinity of percent and fourth LR (74.31) so it can be said that Older an e-journal, the broader is its author pool with more contributions.

**13 Journal wise quantity of articles under broad subject headings**

The coverage of subject for the period 2005-2009 was quite impressive in these 5 journals. Almost all aspects of librarianship have been reported in these journals unique subject headings were assigned to all articles for this period irrespective of journal the emerald authorship data (374 articles). The strategic evaluation of academic libraries (487) articles.

**14 Patten of cited references in Library & Information Science open access articles**

The cited references available in articles were scanned thoroughly and the functionality of hyperlinked references and live hyperlinked references are shown in table no 14 out of 1147 articles 14 (1.22) articles without any references. Average cited references per articles in 5 journals were 31.82 during 2005-2009 total cited references, 8.08 percent references were hyperlinked. The percentage of live hyperlinked references was 46.10

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