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A Bibliometric Analysis on the Directory of Open Access Journals (DOAJ) in the Subject Domain of LIS From the Year 2004-2014

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ABSTRACT: Bibliometric is a technique or a tool of information management, which is also called quantitative science. In the field of Library and Information Science, Bibliometric as it is presently known is of recent origin, though its roots could be traced to a study made 85 years ago in 1917. Since then it has come a long way and attain much importance and significance for Library and Information Managers. Bibliometric has practices applications in the evaluation of Library operation and survey through statistical techniques to make the quantitative analysis possible. It is also useful in the study and measurement of publication pattern of different form of literature on one subject or other and also useful in the study of productivity of authorships pattern of articles. The techniques Bibliometric have extensive applications equally in sociological studies of science, information management, librarianship, history of science policy. Study of science and scientists, etc. The Present study on DOAJ data base shows that how many articles published in a particular area of Library and Information Science subject and also shows that how many single author, double authors, triple authors, and more than three authors contribution in the subject area of Library and Information Science. The present study will helps to indentify the research scenario and the lacking areas of research.

KEYWORDS: Bibliometric Analysis, DOAJ, Library and Information Science

I. INTRODUCTION

Bibliometrics is a statistical analysis of books, articles and other publications. Bibliometric analysis use data on numbers and authors of scientific publications and on articles and the citations therein (and in patents) to measure the “output” of individuals/research teams, institutions, and countries, to identify national and international networks, and to map the development of new (multi-disciplinary) fields of science and technology. Directory of Open Access Journals is a service that provides access to quality controlled Open Access Journals. The aims of DOAJ is to cover all open access scientific and scholarly journals that use an appropriate quality control system, and it will not be limited to particular languages or subject areas. The aim of the Directory is to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact originally.

II. LITERATURE REVIEW

- Rattray (2013) made a study whose aim was to complete an audit on the number of open access journals within the discipline of Exercise Science. Publishing in open access journals results in wide dissemination of material in a very short period of time compared with the more traditional way of publishing in a subscription journal. The 2010 ERA journal list, category Human Movement and Sport Science, was initially utilized and then compared with the openness of the same journals in 2012. In these study journals were audited for their degree

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of open access, open licensing and open format. Open access relates to the free online availability of research results and hence research publications and in the discipline of exercise science relates to the concept of an idealized level playing field. Open licensing relates to the ability of the consumers to replicate and share those publications freely whilst open format relates to the use of open and transferrable format types. Open access increased ($p=0.014$) as did our measurement of open licensing ($p=0.000$) and open formats ($p=0.021$) between the 2010 and 2012 reviews of the journals in 1106 For code. This study reveals an increase in the number of Exercise Science journals that have full or partial open access over the two year period and suggests that authors are increasingly adopting peer reviewed open access journal publications. It is evident from this study that the impact of open access journals be assessed and further research into the feasibility of such a rating is imperative.

- *Stenson (2012)* argued for the value of the directories, mainly focusing on two of them: DOAJ and DOAB. It provides an introduction to the services, containing a brief history and status report, and addresses the differences between OA journal publishing and OA monograph publishing. It also highlights the value of these services and discusses whether the financial models behind them are sustainable
- *Koohang (2006)* demonstrated that advanced technologies and the increasing acceptance of academic open access e-journals offer an opportunity to reconsider their form and function as a medium to enhance scholarly communication. The academic open access e-journal is envisioned as a platform and a portal within the context of an open source community including a format and functions that enable it to achieve that objective. A working model for academic open access e-journals is presented. This model is intended for open source communities involved in designing, developing, and/or improving open access academic e-journals.
- *Kumar (2013)* stated that there are many online databases available on internet that provides open access journals of various disciplines. The facility to access of these journals that is freely available on internet should be launch in the libraries. The present study deals with open access journals accessible from Directory of Open Access Journals (DOAJ) in the subject of library science. Analyzed based on country, keywords, frequency, etc. The analysis indicates that there was only one open access journal i.e. Bulletin of the Medical Library Association was available before 1990 in the field of library and information science (LIS). Only 19.04% journals have their EISSN. Almost one fourth journals were publishing on half yearly basis.
- *Walter (2011)* examined the characteristics of 663 Open Access (OA) journals in biology, computer science, economics, history, medicine, and psychology, then compare the OA journals with impact factors to comparable subscription journals. There is great variation in the size of OA journals; the largest publishes more than 2,700 articles per year, but half publish 25 or fewer. While just 29 percent of OA journals charge publication fees, those journals represent 50 percent of the articles in our study. OA journals in the fields of biology and medicine are larger than the others, more likely to charge fees, and more likely to have a high citation impact. Overall, the OA journal landscape is greatly influenced by a few key publishers and journals.
- *Hulagabali (2012)* analysed the Library and Information Science (LIS) journals with the aid of bibliometric methods. The study covers year-wise, country-wise and language-wise. Distribution of LIS journals archived in Directory of Open Access Journals (DOAJ). The year-wise growth of LIS journals, in DOAJ, started in the year 2003 with 21 journals. Till 2009, it has archived 97 LIS journals in its database. The LIS domain stands third position, under the social science stream, out of 960 journals listed under ten major disciplines in DOAJ database. In a country-wise distribution of LIS journals, developed countries top the share. In view of language-wise distribution of LIS journals, 71 journals are monolingual and only 15 journals are bilingual. Out 97 journals 40 journals are being published in English language. The very bibliometric study helps understand the publication and archival trends of open access developments in LIS domain.

III. OBJECTIVES

The major objectives of this bibliometric study are as follows:

- To observe what extent of research articles had been published in the subject area of Library and information Science.
- To identify the authorship pattern in the articles of LIS journals.

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- To locate a new research area for researchers.
- To identify the languages in which research is being conducted.

IV. SCOPE

The Present study is limited within the database of Directory of Open Access Journals and the subject area is Library and Information Science. The articles which were published in English language published from the year 2004 to 2014 were only taken into consideration. Analysis has been done to know the authorship pattern and subject area of LIS which has maximum productivity and also find out year-wise productivity of articles.

V. METHODOLOGY

All the selected journal of Library and Information Science has been searched from Directory of Open Access Journals (DOAJ) data base only those journals which published in English language have been selected. After that all the issue of all volume has been collected from the journals published from the year 2004 to 2014. Collected articles have been arranged in chronological order after that it has been counted to know the authorship pattern of the article. Then a graphical representation has been made so that, a concept may be emerged about recent trend.

VI. FINDINGS

Name of the Selected LIS journals on Directory of Open Access Journals (DOAJ)

- Bulletin of the American society for Information science and technology
- Cybermetrics international journal of scientometrics
- D lib magazine
- DESIDOC journal of library
- Informing science the international journal of an emerging trans discipline
- Issues in science and technology librarianship
- Journal of digital information
- Journal of electronic publishing
- Journal of southern academic and special librarianship
- Library and information research into practice for information
- Libres library and information science research electronic journal
- Singapore journal of library & information management
- Webology

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Table 1: Name of the subject area conducted on above 13 LIS journal

Sl.no.	Subject field	Frequency of occurrence	Percentage (%)
1	Information and Communication Technology (ICT)	497	23.49
2	Library society	275	13.00
3	Management	231	10.92
4	Information services	231	10.92
5	Information retrieval	208	9.83
6	Information science	152	7.18
7	Bibliometrics and scientometrics	97	4.58
8	Library cataloging	82	3.87
9	Preservation and conservation	80	3.78
10	Research methodology	72	3.40
11	Digital library	45	2.12
12	Library service	39	1.84
13	Academic library	36	1.70
14	Library classification	24	1.13
15	Special library	12	0.56
16	Public library	10	0.47
17	Altmetric	9	0.42
18	Webometric	9	0.42
19	Library association	6	0.28
	TOTAL	2115	100.00

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Articles productivity in a particular area of LIS

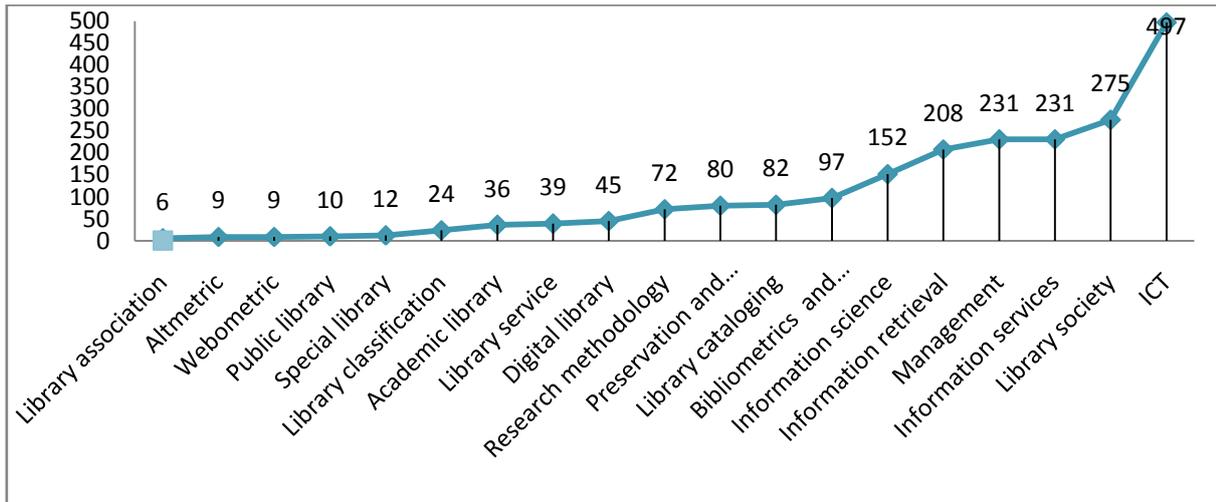


Figure no. 1 Bar diagram showing the articles productivity in a particular area of LIS

VII. INTERPRETATION

After analysis of research articles productivity on subject subfields of LIS it was found that the field of Information and Communication Technology is more prominent in case of research article productivity. That was followed by Library society, Information services, Information retrieval. But some sub fields have very less productivity like Library association (6), Altmetric (9), Webometric(9), Public library (10), Special Library (12), Library classification (24)

Table 2: Distribution of Authors contribution per journal

Sl. no	Name of the journal	Single author	Double authors	Triple authors	More than three authors
1.	Bulletin of the American society for information science and technology	262	67	20	8
2.	Cybermetrics international journal of scientometrics	10	9	10	3
3.	D lib magazine	149	96	54	90
4.	Desidoc journal of library	173	170	64	24
5.	Informing science the international journal of an emerging transdiscipline	43	35	18	14
6.	Issues in science and technology librarianship	61	27	14	11
7.	Journal of digital information	39	48	30	35
8.	Journal of electronic publishing	92	22	8	6

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9.	Journal of southern academic and special librarianship	50	22	8	4
10.	Library and information research into practice for information	46	26	9	5
11.	Libres library and information science research electronic journal	25	11	2	4
12.	Singapore journal of library & information management	18	20	5	3
13.	Webology	79	40	18	8
	Total	1047	593	260	215

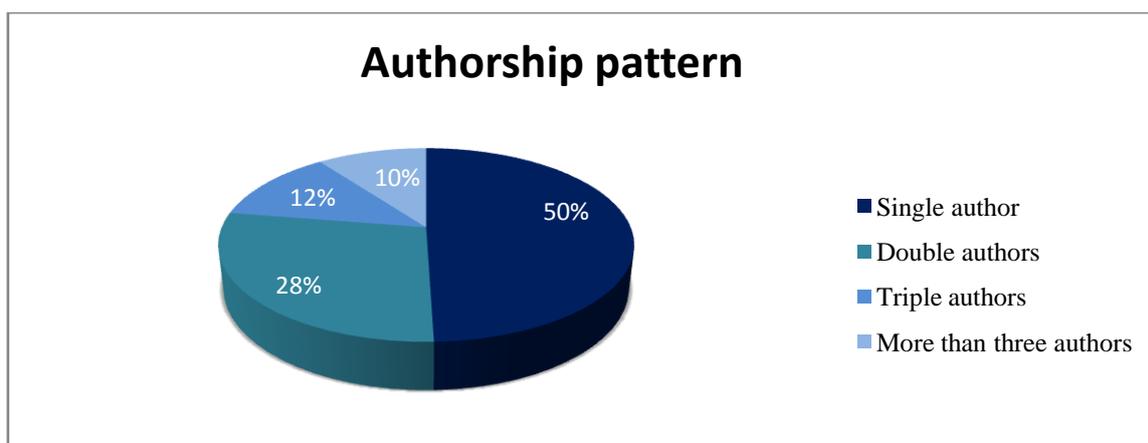


Figure no. 2 Pie diagram showing the authorship pattern to contribute productivity of articles

VIII. INTERPRETATION

Here we see that major productivity has been by single author. Then double author is in second place. Triple author is just after of double author and finally more than three authors are in fourth place.

Table 3: Year wise productivity of articles

Sl. no	Year	Article	Percentage (%)
1	2004	170	8.03
2	2005	201	9.50
3	2006	186	8.79
4	2007	206	9.73
5	2008	219	10.35
6	2009	213	10.07
7	2010	142	6.71

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8	2011	181	8.55
9	2012	223	10.54
10	2013	181	8.55
11	2014	193	9.12
Total 11 years		2115	100

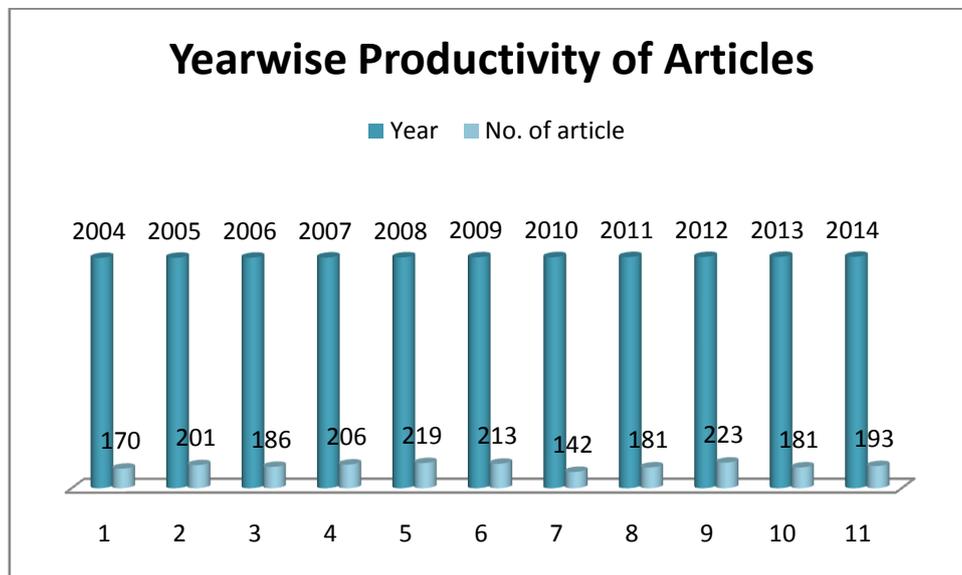


Figure no. 3 Bar diagram showing the year wise productivity of articles

IX. INTERPRETATION

After analysis of year wise research articles productivity on LIS subject field it shows that in the year 2013 productivity of research articles is very high in respect of these 10 years.

X. CONCLUSION

After studying DOAJ database it was found that maximum productivity in the field of Library and Information Science is in the Information and Communication Technology subfield, followed by Library and society, Library association and then by Management. The least productivity has been noticed in the subfield of Library association, Altmetric, Webometric, Public library, Special Library, Library classification. Authorship pattern showed that contribution of single author's productivity on research articles is very high in numbers and more than three author's contribution to publish research articles is very low. So, we must try to concentrate on the fields where the research articles productivity is very low. Otherwise this subfield will be wiped out.

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