The Journal of Information Literacy: A Bibliometric Study

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Abstract- This paper analyses publication and citation patterns in the Journal of Information Literacy (JIL) an open access journal from 2007-2012. The results show that the number of research articles 68 (51.9%) is highest among other types of publications such as book reviews 36 (27.49), conference papers 27 (20.61%), etc. A majority of contributions 94 (71.75%) emanating from UK and other countries have very meager contribution. Almost all the papers 124 (94.65%) are from academic institutions and a very few papers 7 (5.35) are from non-academic institutions. The citations demonstrated that individual research 90 (68.7%) is much higher than collaborative research. So far as profile of the authors concerned, almost equal number of faculty members and professionals contribute to JIL. The journal maintains all the features in terms of content, structure, citations, credibility of authorship, etc. to be considered as an international journal especially devoted Information Literacy. However, there no information regarding the indexing services which include the journal.

Index Terms- Bibliometrics, Information literacy, Authorship pattern, Citation Analysis.

I. Introduction

The term Bibiliometrics was coined in 1969 by Alan Pritchard who defined it as, "the application of mathematics and statistical methods to books and other media of communication" (Pritchard, 1969). Earlier to this, the term was recognized as *statistical bibliography*. Bibliometrics has been an established area of information research which studies bibliographic attributes of publications especially scientific research. One important aspects of increasing interest in bibliometrics is to evaluate research performance and research trends of individuals and institutions. Ashoor and Chaudhry (as cited in Okafor, 2008) emphasised that bibliometric studies are useful for ascertaining indicators of scientific productivity trends and emphasis among researchers in different subject fields. For about half a century now single journal bibliometric studies have been carried out worldwide (Biswas, Roy & Sen, 2007). In this kind of study, data is gathered from a single primary, secondary or tertiary journal covering a particular period and analysed from various angles to find out year-wise distribution of articles, authorship pattern, citation pattern, length of articles, institution-wise distribution of articles, and subject-wise break-up of articles and many other bibliographic attributes.

Information Literacy was first introduced by Paul Zurkowski in the year 1974. The National Forum on Information Literacy defines the phrase 'Information Literacy' as, "the ability to know when there is a need for information, and to be able to identify, locate, evaluate and effectively use that information for the issue or problem at hand." (Fergusan, 2005). Over the years, the dimensions of the term have extended to five primary components: Basic Literacy, Media Literacy, Technology Literacy, and Visual Literacy.

The *Journal of Information Literacy* (JIL) is an international, peer-reviewed journal, published by Chartered Institute of Library and Information Professionals (CILIP) Information Literacy Group, United Kingdom since 2007 (http://ojs.lboro.ac.uk/ojs/index.php/JIL). It aims to look into information literacy in all its forms to deal with the interests of various Information Literacy (IL) communities of practice. To this end it publishes articles, book reviews, research studies, conference papers, etc. both from established and new authors in this field all around the world.

II. Review of Literature

In order to trace the findings of various journal bibliometric studies and to present an analytical view point, the paper included a review of few research papers pertaining to this subject. Tiew, Abdullah and Kaur (2002) explored the *Malaysian Journal of Library & Information Science* for a five year period from 1996 to 2000. In this study, the authors came up with the findings that, the average number of references per article was 22.5 and the average length was 41.2 pages which were purely tentative. The most popular subject was scientific and professional publishing. Most of the contributions were from Malaysian academics and single-authored articles were found from the governing places. The same journal was also studied by Bakri and Willet (2008), covering the period from 2001 to 2006. Here the authors compared the results with the previous study and found that, the number of publications was increased statistically and the significant changes occurred in types of articles, number of references per article and length of the articles. The study also revealed that, the two-authored articles were greater in number and the major contribution was from Malaysian authors.

Warraich and Mahmood (2011) studied the *Pakistan Journal of Library and Information Science* for a six year period from 1995 to 2011. In this study, the authors came up with the findings that most of the authors i.e. 72 (85.71%) contributed only one paper and maximum papers, 54 (48.65%), were from the University of the Punjab, Lahore. Majority of the papers were research papers and 70 percent were written in English language. The study also revealed that, almost 60% of papers' length ranges 6-20 pages and average length of papers was 8.84 pages.

Lipetz (1999) studied the *Aspects of JASIS Authorship* by examining the volume of five decades from 1955 to 1995. His findings revealed that, the number of scholarly papers published per year in JASIS has grown-up from 21 to 68. The authorship pattern has also grown from 34 to 130 with a doubling time of about 20 years which is similar to the growth pattern of JASIS papers. Authors were collaborated in the formation of new papers and international authors have significantly increased their productivity. Academic affiliation also increased from less than 25% in 1955 to 90% in 1995. From 1955 to 1965, the average number of citations per paper dropped from 8.3 to 7.0; but the ratio increased rapidly thereafter to 30.5 in 1995.

The literature of *D-Lib Magazine* was studied by Park (2010) which covered a period of thirteen years and the data were collected by examining issues from July 1995 to May/June 2008. The findings proved that, two and more author's contribution was highest with a ratio of 57% and most of the authors had a single contribution. The proportion of the male authors was much higher with a ratio of 74% then female contribution. The study also revealed that, authors from the United States contributed 70% of the articles and the average number of references per article was 15.

Young (2006) explored a bibliometric study on *Library Quarterly (LQ)* covering for a period of 48 years from 1956 to 2004 with 4226 articles. The author found that more than 50 percent of the top thirty contributors had served on the editorial board of LQ and a large majority of authors were either from the University of Chicago (doctoral graduates or faculty or both). The study found a correlation between the most highly cited authors within LQ corpus and these authors' citations on the Web of Science. The study also found that LQ continues to receive contributions from nearly one-half of the world's most cited LIS scientists, which infer that the journal is reputable and impactful. Young mentioned several bibliometric measures that could be used in future assessment of LQ such as journal attraction power (the proportion of articles written by authors outside the country), author associativity (collaborative authorship) and consumption index (popularity and citation factors of the journal from both its own and other scholarly journals).

III. OBJECTIVES

This study has been undertaken with the objectives find out:
i. Year-wise distribution of the papers
ii. Authorship pattern of the papers
iii. Average number of references per paper
iv. Average length of the papers in terms of pages
v. Geographical distribution of the papers
vi. Credibility of the authors
vii. Types of papers

IV. METHODOLOGY

The *JIL* publication data of all the 6 volumes (2007-2012) published so far were downloaded from the journal site *http://ojs.lboro.ac.uk/ojs/index.php/JIL* . In all, there were 131 articles including articles, book reviews, conference papers, editorials, etc. scanned and data relating to subject, author, author affiliation, geographic distribution, number of references and the number of pages were extracted. Finally, the resulting publication and citation data were loaded into a spreadsheet and SPSS was used for statistical analysis of data.

V. RESULTS AND DISCUSSION

Year-wise Distribution of Papers and Their Lengths

Table 1 depicts the year-wise distribution of papers in the journal. The number of papers published varied from 13 to 26 during the period. The highest number of papers, i.e. 26, was published in 2007 and in 2010 and the lowest number i.e., 13 in 2012. A total of 131 papers were published during the period spread over 12 issues of the journals. On an average, 11 papers were published per issue and 22 per volume. The average length of the articles spotted between 8 and 10 pages with an average of 9 pages per paper.
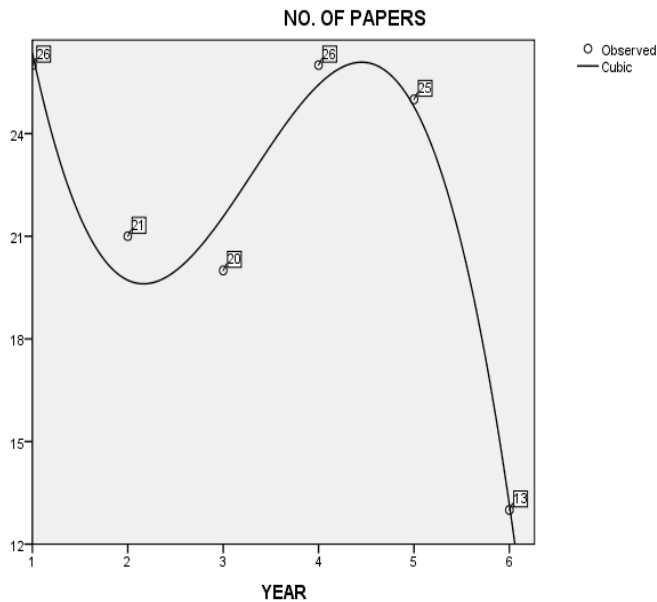
Table 1: Year-wise Distribution of Papers and their Lengths

Year	No. of Papers	Percentage (%)	Length (in pages)	*Average page/article
2007	26	19.84	187	8
2008	21	16.03	212	10
2009	20	15.26	200	10
2010	26	19.84	214	8
2011	25	19.08	236	9
2012	13	9.92	123	10
Total	131	100	1172	9

Rounded off to the nearest figure

A regression analysis between years and the number of papers in different years shows that the trend follows a cubic pattern (with F = 17.545, significant at 0.05 level of significance) (p>0.05). The cubic curve fitted is represented in Figure below which explains 96.3% of the error variance.

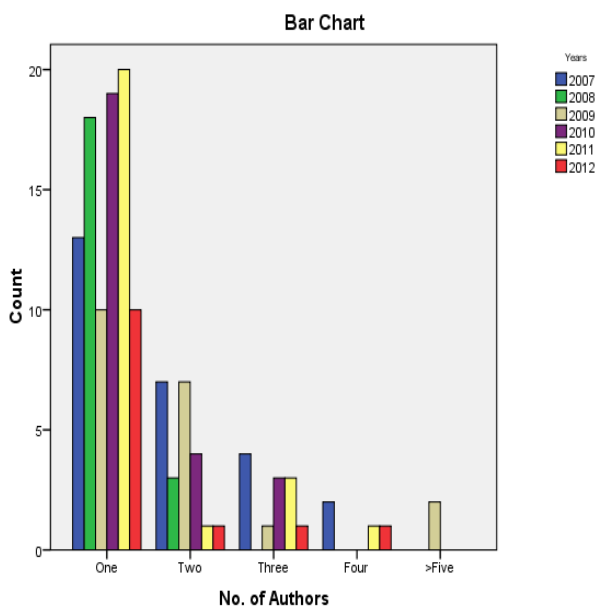Year-wise distribution of Papers following a Cubic Curve

Authorship Pattern

It is seen from Table-2 that the highest number of papers, i.e. 90 (68.7%) are by single authors. Two and three authored contributions count is 23 (17.57%) and 12 (9.16%) respectively. The number of joint contributions by four or more authors is found to be 5 (3.81%). It is evident that, over the years level of collaboration is very low in the case of publications in *JIL.*

Table 2: Authorship Pattern

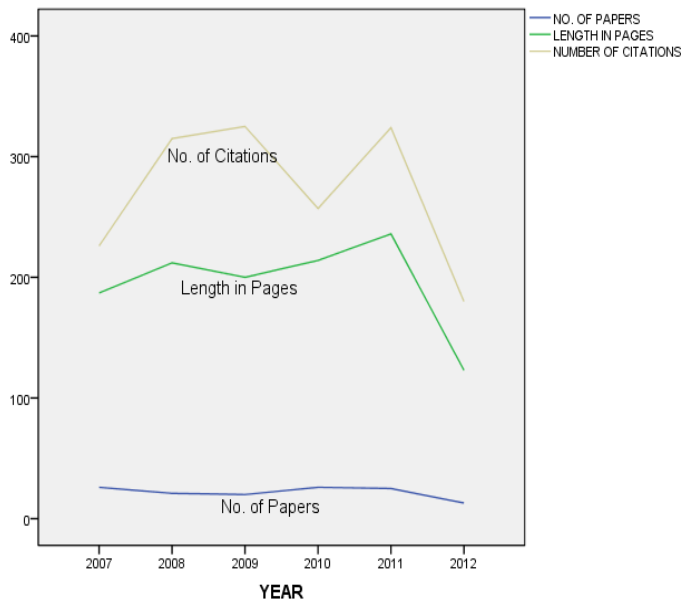| No. of Author(s)	Contributions in Years						Total Papers	Percentage (%)
	2007	2008	2009	2010	2011	2012		
One	13	18	10	19	20	10	90	68.7
Two	7	3	7	4	1	1	23	17.57
Three	4	0	1	3	3	1	12	9.15
Four	2	0	0	0	1	1	3	3.06
Five	0	0	0	0	0	0	0	0
>Five	0	0	2	0	0	0	2	1.52
Total	26	21	20	26	25	13	131	100

Citation Analysis

The division of citations for the study period is shown in Table-3. It reveals that a total of 1627 citations are appended to 131 papers. The number of citations per year speckled from a minimum of 180 citations in 2012 to a maximum of 325 citations in 2009. The average number of citations per paper varied from 20 in 2009 to 13 in 2012. On the whole it is 12 per paper.

Table 3: Citation Pattern

Year	No. of Papers	No. of Citations	*Av. No. of Citation/Paper
2007	26	226	9
2008	21	315	15
2009	20	325	16
2010	26	257	10
2011	25	324	13
2012	13	180	13
Total	131	1627	12

Rounded off to the nearest figure

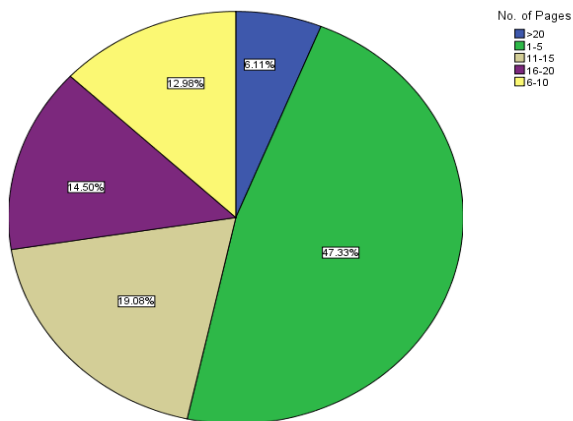Distribution of Papers according to No. of Pages, Length of Pages and No. of Papers in Different Years

Distribution of Papers According to Pages

So far as the length of the papers are concerned, Table-4 shows that, maximum number of papers 62 (47.32%) are within 1-5 pages followed by 25 (19.08%) papers with 11-15 pages, 19 (14.5%) with 16-20 pages and 17 (12.97%) with 6-10 pages.

Table 4: Distribution of Papers According to Pages

No. of Pages	Contributions in Years						Total Papers	Percentage (%)
	2007	2008	2009	2010	2011	2012		
1-5	12	9	6	13	15	7	62	47.32
6-10	8	1	5	3	0	0	17	12.97
11-15	3	6	6	5	3	2	25	19.08
16-20	3	3	3	5	2	3	19	14.50
>20	0	2	0	0	5	1	8	6.10
Total	26	21	20	26	25	13	131	100

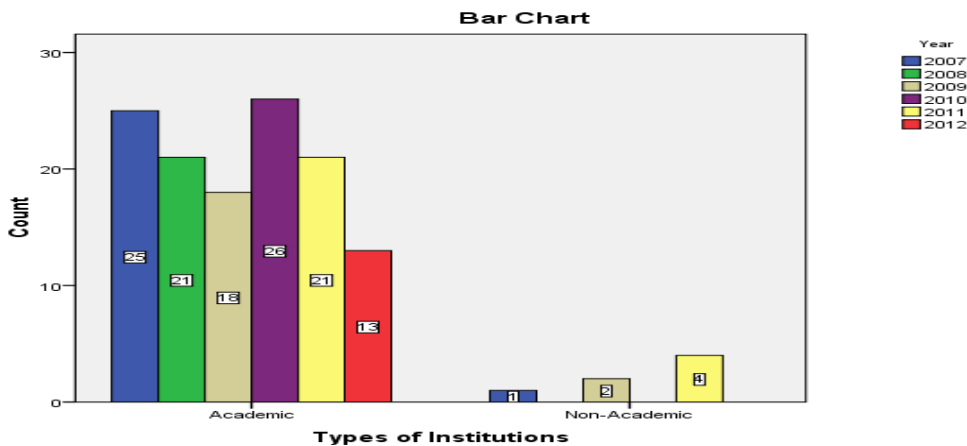Pie Chart for Distribution of Papers according to Pages

Institution-wise Distribution of Papers

Table-5 shows the papers emanating from different organizations. The highest number of papers totalling 124 (94.65%) has emanated from academic institutions like schools, colleges and universities. Apart from the academic institutions, non-academic institutions/organizations have also accounted for 7 (5.35%) papers.

Table 5: Institutions-wise Distribution of Papers

Types of Institutions	Contributions in Years						Total Papers	Percentage (%)
	2007	2008	2009	2010	2011	2012		
Academic	25	21	18	26	21	13	124	94.65
Non-academic	1	0	2	0	4	0	7	5.35
Total	26	21	20	26	25	13	131	100

Institution-wise Distribution of Papers

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Country-wise Distribution of Papers

Table 6 reveals that the papers have emanated from 15 countries. The geographical distribution of papers has been decided on the basis of the affiliation and address of the first author. From the analysis it is observed that the highest numbers of publications are from U.K. with 94 (71.75%) papers. Next comes U.S.A. with 11 (8.39%) papers followed by Ireland with 8 (6.10%) papers. Canada ranks 3rd in the list with 4 papers (3.05%). It may be noted that the first four countries are responsible for 89.3% of the papers.

Table-6: Country-wise Distribution of Papers

Sl No.	Country Name	Contributions in Years						Total Papers	Percentage (%)
		2007	2008	2009	2010	2011	2012		
1	Australia	0	1	0	0	0	1	2	1.52
2	California	1	0	0	0	0	0	1	0.76
3	Canada	0	2	0	0	2	0	4	3.05
4	Emeritus	0	0	0	0	1	0	1	0.76
5	Fullerton	0	0	0	1	0	0	1	0.76
6	Georgia	0	0	0	1	1	0	2	1.52
7	Ireland	0	1	2	0	5	0	8	6.10
8	Italy	1	0	0	0	0	0	1	0.76
9	Malaysia	0	1	0	0	0	0	1	0.76
10	Netherlands	0	0	0	1	1	0	2	1.52
11	New York	0	1	0	0	0	0	1	0.76
12	Spain	0	1	0	0	0	0	1	0.76
13	Tanzania	0	0	0	1	0	0	1	0.76
14	UK	24	13	16	19	13	9	94	71.75
15	USA	0	1	2	3	2	3	11	8.39
Total		26	21	20	26	25	13	131	100

Credibility-wise Distribution of Authors

Table-7 reveals that the papers published in *JIL* of two broad categories of authors, the faculty members and LIS professionals. Out of 131 papers, 68 (51.91%) are published by LIS professionals and 63 (48.09%) by Faculty members. The year wise productivity of faculty members reveals that the highest number of 13 papers each was published in 2007 and in 2011. Similarly, the LIS professionals have published highest number of 17 papers in the year 2010.

Table 7: Credibility-wise Distribution of Authors

Credibility of Authors	Contributions in Years						Total Papers
	2007	2008	2009	2010	2011	2012	
Faculty Members	13	10	9	9	13	9	63
LIS Professionals	13	11	11	17	12	4	68
Total	26	21	20	26	25	13	131

In order to test the hypothesis, a Chi-square test was conducted to study whether credibility of authors is dependent on

their contributions in different years. The Pearson Chi-square value 4.488 with 5 degrees of freedom is found to be insignificant at 0.05 level of significance (p>0.05). Therefore, we may conclude that the attributes credibility of authors is independent of the contributions in year. The measure of association is found to be 0.182 which quite low.

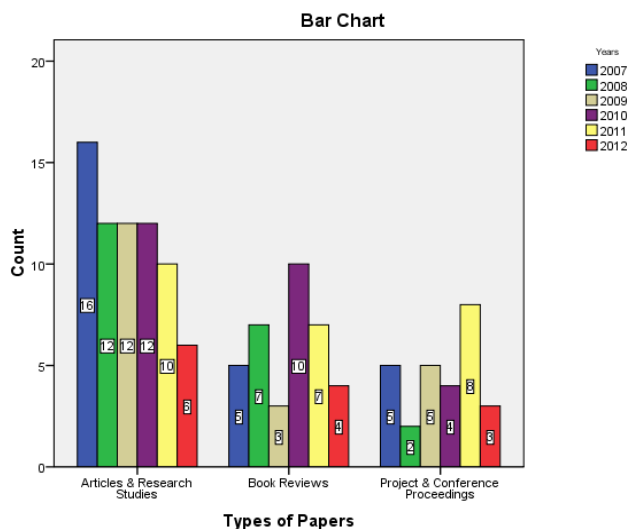### Distribution of papers by their types

The *Journal of Information Literacy* includes 3 types of articles as depicted in the Table-8. Articles and Research Studies constitute highest number of papers i.e. 68 followed by Book Reviews (36) and Projects with Conference proceeding (27).

Table 8: Distribution of papers by their types

Types of Paper	Contributions in Years						Total Papers
	2007	2008	2009	2010	2011	2012	
Articles & Research Studies	16	12	12	12	10	6	68
Book Reviews	5	7	3	10	7	4	36
Projects & Conference Proceeding	5	2	5	4	8	3	27
Total	26	21	20	26	25	13	131

A Chi-square test was conducted to study the association between types of paper and the contribution in different years. The Pearson Chi-square value 8.413 with 10 degrees of freedom is found to be insignificant at 0.05 level of significance (p>0.05) value and as such the attributes types of papers are independent of the contributions in year. The measure of association is found to be 0.246 which is pretty low.

Distribution of Papers by their Type

VI. GENERAL FEATURES OF THE PAPERS

The special features of the papers on Information Literacy are as follows:

i. Almost all the papers in *JIL* include an abstract and keywords in English.

ii. The contributor's bio data with address and affiliation are also given.

iii. All the papers include references that follow a standard pattern.

iv. Each issue of the journal includes reviews of books.

v. In few cases, the details like month and year of receipt of the article are also provided.

VII. SUMMARY

The findings of the study could be summarised as follows:

i. The number of papers in the journal is not consistent and varies from volume to volume.

ii. Single-author papers are dominant 90 (68.70%), followed collaborative works by two-author 23 (17.55%) and three-author 12 (9.16%) papers.

iii. The average number of 12 citations per article indicates that the authors review a considerable amount of literature before writing a paper, which is a healthy sign for good research.

iv. The papers have an average length of 9 pages, which more or less conform to the international practice.

v. United Kingdom, where from the journal originates accounts for the highest number of papers.

vi. The journal publishes articles only in English.

vii. Most of the papers have emanated from academic institutions.

viii. Almost all papers included a brief abstract and keywords.

VIII. CONCLUSION

The findings of the study conform that the *JIL* is an international Open Access journal in its true sense as the papers are contributed by authors across the world and peer reviewed publications. In order to be an international journal in the areas of Information Literacy in its true sense, the journal should incorporate contributions from across the globe inspite of focussing only the UK based research. The acceptance rate of 44% shows a very strict reviewing process so that the quality could be assured. The journal should be included with the indexing services in order to enhance its visibility, usability and impact.

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