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Authorship Patterns and Collaborative Research in Malaysian Journal of Library and Information Science, 1996 - 2012

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Abstract

This paper presents a bibliometric study of Malaysian Journal of Library and Information Science. A total of 279 research articles and 575 authors were examined by growth of contributions by year and volume, authorship patterns by year and volume, authorship patterns, author productivity, single and multi authored papers by year, authorship patterns by global, most prolific contributors and degree of collaboration. Maximum number of contributions i.e., 28 (10.036%) were published in the year 2011. Average number of authors per paper is 2.06. The highest number of author productivity i.e., 72 (12.522%). Majority 180 (64.516%) of the total contributions represent collaborative research. The average degree of collaboration has been arrived at .64 during the study period.

Keywords: Bibliometrics; Malaysian Journal of Library and Information Science; Publication Analysis; Authorship Patterns; Degree of Collaboration; Research Trends.

I. Introduction

Bibliometric studies have been conducted on journals related mainly to scientific fields and are based principally on various metadata elements such as author, title, subject, citations and so forth. This type of analysis provides useful indicators of trends, scientific

productivity, emphasis of research in various fields, and researcher preferences for publication. Typically, bibliometrics consider organization, classification, and quantitative evaluation of publication patterns as well as provide an analysis of macro-communication. The study discussed in this journal article provides some of these analyses related to the authorship patterns and collaborative research in the *Malaysian Journal of Library and Information Science*, published in the field of Library and Information Science (LIS). It is one of the most extensive journals that appears in the Directory of Open Access Journals, and will be the source of bibliometric data.

II. History and Profile of Malaysian Journal of Library and Information Science (MJLIS)

The Malaysian Journal of Library and Information Science (MJLIS) is an international online journal. It is a scholarly journal in English devoted to the various fields of Library and Information Science and was first published bi-annually in 1996. Professor Dr. Mashkuri Yaacob, Dean of the Faculty of Computer Science and Information Technology, University of Malaya, was the first Editor-In-Chief. Starting in 2009 it was three times a year in April, August and December by the Department of Library and Information Science, Faculty of Computer Science and Information Technology, University of Malaya. The journal publishes original research articles in the field of library and information science (LIS) as well as related domains that encapsulate information and knowledge. It also encourages contribution about professional policies, practices, principles and progress in the LIS fields. The journal aims to provide a forum for communications amongst LIS professionals, especially within the Asia Pacific region, to introduce new concepts, methodologies, systems and technology. Between 1996 and 2008 the journal was published both in print and electronic. The electronic version, available from 2009 onwards, is available <http://ejum.fsktm.um.edu.my>. The journal is being indexed and abstracted by Social Science Citation Index (ISI), SCOPUS, LISA (Library and Information Science Abstracts), Library Literature, LISTA and Journal of Academic librarianship. Based on Journal Citation Reports (JCR) 2011: Impact Factor 0.381, Ranked 60/82, Quartile 3.

III. Literature Review

A Number of studies have been carried out that may be useful supplementary analysis for the study presented here;

Authorship patterns and collaborative research in Psychology has been analyzed by Karisiddappa et.al (1990) based on the data collected from Psychological Abstracts. Narendra Kumar and Ramesh Babu (1999) analyzed the literature published in Indian Library Association (ILA) bulletin during the years 1986-1996 and discussed authorship patterns, citation patterns, and subjects covered, ranking of the contributors, nature of contributions, bibliographic forms of cited documents. Bhagavathi Sudha and Ramesh Babu (2000) analyzed the Indian contributions on the topic of 'Information Technology' covered in the Indian library and information science literature during the period 1990-1993; with respect to degrees of collaboration, bibliographic forms, sub-fields of information technology etc. Farahat (2002) examined the pattern of authorship in 19 Egyptian journals of agricultural sciences. The scientific productivity of authors in theoretical population 'Genetics' was examined by Karisiddappa et al. (2002). Shirabe and Tomizawa (2002) studied the likelihood of overseas access to international co-authorship, and proposed a new index for international scientific co-authorship which was based on a simple model of domestic and international co-authorship. Wilkes et al. (2002) reported on investigations on Nursing Research published by Australian authors from 1995-2000 in 11 Nursing journals from Australia, UK and the USA.

Dutt, Garg, and Bali (2003) analyzed 1317 papers published in the volumes of the international journal *Scientometrics* during 1978 to 2001. They noticed that single authored papers dominated the *Scientometrics* output, but multi-authorial papers were gaining momentum. Koteswara Rao and Raghavan (2003) in their study on collaboration in superconductivity research in India indicate an increased interaction between countries, institutions, and disciplines, leading to "global research networks". The Indian output on Air Pollution research by Parameswaran, Ramesh Babu and Gopalakrishnan (2003). The various bibliometric indicators that were used in the analysis, authorship patterns, relative growth rate, doubling time, and ranking of core journals, and core research institutions in India. Mapping global science using international co-authorship and a comparison of 1990 and 2000 using the Science Citation Index (CD-ROM version) for 1990 and 2000 were examined by Wagner and Leydesdorff (2003). Rajendran, Ramesh Babu and Gopalakrishnan (2005)

analyzed the global output of “fiber optics” research with regard to growth of literature by year, country, authorship patterns, bibliographic forms, ranking of core journals and nature of research.

Vimala and Pulla Reddy (2009) traced authorship patterns and collaborative research in theses on zoology. Zafrunnisha and Pulla Reddy (2009) studied authorship trends and collaborative research in the field of Psychology. Amsaveni and Vasanthi (2013) trace the trend in authorship patterns and collaborative research in network security. Thavamani and Velmurugan (2013) examined the pattern of authorship and degree of collaboration in the *Annals of Library and Information Studies* during 2002 – 2012. Mahapatra and Padmanav (2006) examined the growth of authorship patterns, year growth, subjects of papers, category of journals, place of origin, length of papers, in scientific research productivity on Orissa were studied. Nosheen Fatima, Warraich and Sajjad Ahmad (2011) traces the Pakistan journal of library and information science’s author productivity, extent of authors’ collaboration, authors’ institutional affiliation, authors’ geographic affiliation, type of publication, language of papers, number of citations used per article, length of papers, and yearly distribution of papers. Vermaa, Rajnish and Priyanka. (2007) find out the *Annals of library and information studies* journal’s year, institutions, and contributions by state, authorship patterns, citation analysis and length of the contributions.

IV. Objectives of the Study

The primary objective of this study was to understand the growth of Malaysian Journal of Library and Information Science and contributor’s research output in global during the period 1996 - 2012. The specific objectives are:

- ❖ To study the distribution of articles by year and volume, authorship patterns by year and volume, authorship patterns in general.
- ❖ To study author productivity, single and multi authored papers by year,
- ❖ To trace authorship patterns by country of authors, most prolific contributors and degree of collaboration.

V. Methodology and Data Collection

The data was collected from the Malaysian Journal of Library and Information Science (MJLIS) website (<http://ejum.fsktm.um.edu.my>) covering the period from 1996 to 2012. Two hundred and seventy nine articles and related information's about by year, number of authorship, author's productivity, authorship patterns by country, most prolific contributors, single and multi authored by year, degree of collaboration were noted down for the study have been selected for the current study. The journal publishes original research articles in the field of library and information science (LIS), as well as related domains that encapsulate information and knowledge. All articles are source article published in the last seventeen years (1996 – 2012) were recorded in a separate white sheet and results were entered in Microsoft Excel. Statistical Package for Social Sciences (SPSS) was used for the analysis. These data were organized, calculated, tabulated, analyzed and presented by using simple arithmetic and statistical methods in order to provide analysis.

VI. Data Analysis and Findings

The flowing 8 tables and brief analyses represent the substance of this research.

Table 1: Contribution of Research Articles by Year and Issue

Year	Number of Issues	Number of Contributions	Percentage (%)
1996	2	16	5.734
1997	2	16	5.734
1998	2	13	4.659
1999	2	15	5.376
2000	2	14	5.017
2001	2	14	5.017
2002	2	13	4.659
2003	2	16	5.734
2004	2	14	5.017

2005	2	14	5.017
2006	2	14	5.017
2007	2	14	5.017
2008	2	16	5.734
2009	3	18	6.451
2010	3	24	8.602
2011	3	28	10.035
2012	3	20	7.168
Total	38	279	100.000

Table 1 shows the number of contributions (i.e. research articles) and the number of issues published by year. There have been 279 articles contributed by 575 authors were identified in last seventeen years. The highest number of research articles 28 (10.035%) were published in 2011 from different countries. The smallest amount of research articles 13 (4.659%) were published in 1998 and 2002.

Table 2: Authorship Patterns by Year and Volume

Year	Volume	Authors per Article					Total
		Single	Two	Three	Four	More than Four	
1996	1	7	7	2			16
1997	2	7	4	4	1		16
1998	3	6	3	2	1	1(7)*	13
1999	4	10	3	1	1		15
2000	5	4	10				14
2001	6	6	4	4			14
2002	7	3	6	4			13
2003	8	9	5	2			16
2004	9	4	7	1	1	1(5)*	14
2005	10	6	6	1		1(9)*	14
2006	11	4	6	2	2		14
2007	12	5	7	1		1(5)*	14
2008	13	6	9	1			16

2009	14	9	4	1	3	1(5)*	18
2010	15	4	13	6	1		24
2011	16	3	14	7	2	2(5)* (7)*	28
2012	17	6	3	7	2	2(8)* (9)*	20
	Total	99	111	46	14	8	279

*(Five (5), Seven (7), Eight (8) and Nine (9) Authors)

Table 2 shows the authorship patterns by year and volume. Out of the 99 contributions by single author, volume 4 has the highest number (i.e., 10 (10.101%) and 16 have the lowest number (i.e. 3 (3.030%) contributions. Out of the 111 contributions by two authors, 16 has the highest (i.e. 14 (12.613%). And 3, 4 and 17 has the lowest number (i.e., 3 (2.703%) contributions. Out of 46 contributions by three authors, 17 has the highest (i.e. 7 (14.893%) and 4, 9, 10, 12, 13, and 14 has the lowest number (i.e., 1 (2.174%) contributions.

Table 3: Authorship Patterns

Authors	Total	Percentage (%)
Single Author	99	35.484
Two Authors	111	39.785
Three Authors	46	16.487
Four Authors	14	5.018
Five Authors	4	1.434
Seven Authors	2	0.717
Eight Authors	1	0.358
Nine Authors	2	0.717
Total	279	100.00

Table 3 shows the majority 180 (64.516%) of the papers have been written in joint authorship. It is seen that only 99 (35.484%) of the publications are single authored and 111 (39.785%) are two authored papers. And 46 (16.487%) are contributed by three authors and the lowest number of contribution i.e., 1 (0.358%) contributed by eight authors.

Table 4: Average Author's Per Article

Year	Total No. of Articles	Total No. of Authors with %	AAPP*
1996	16	27 (4.696%)	1.68
1997	16	31 (5.391%)	1.93
1998	13	29 (5.043%)	2.07
1999	15	23 (4.000%)	1.53
2000	14	24 (4.174%)	1.71
2001	14	26 (4.522%)	1.85
2002	13	27 (4.696%)	2.07
2003	16	25 (4.348%)	1.56
2004	14	30 (5.217%)	2.14
2005	14	30 (5.217%)	2.14
2006	14	30 (5.217%)	2.14
2007	14	27 (4.696%)	2.00
2008	16	27 (4.696%)	1.68
2009	18	37 (6.435%)	1.94
2010	24	52 (9.043%)	2.05
2011	28	72 (12.522%)	3.88
2012	20	58 (10.087%)	2.90
Total	279	575 (100.00)	2.06

*Average Authors per Paper (AAPP) = Number of authors/ Number of papers.

Table 4 shows the data related to Average Authors per Paper (AAPP), which shows that the average number of authors per all the paper is 2.06. The highest number AAPP of score (i.e. 72 (3.88%)) came from 2011. The lowest AAPP score (i.e. 23 (1.53%)) was recorded in 1999.

Table 5: Most Prolific Contributors

Name	Number of Contributions	Country	Rank
Zainab, A. N	41	Malaysia	1
Abrizah Abdullah	14	Malaysia	2
Edzan, N. N	13	Malaysia	3
Kademani, B. S	12	India	4
Tiew Wai Sin	12	Malaysia	4
Sen, B.K	11	Malaysia	5
Vijay Kumar	11	India	5
Kalyane, V. L	10	India	6
Anil Sagar	7	India	7
Kiran Kaur	7	Malaysia	7
Mutala Stephen M	7	Botswana	7
Noor Harun Abdul Karim	6	Malaysia	8
Gupta, B. M	5	India	9
Majid Shaheen	5	Singapore	9
Mumtaz Ali Anwar	5	Kuwait	9

Table 5 shows the total of 575 authors contributed 279 articles over the period of seventeen years (1996 – 2012). The most prolific contributor Zainab, A. N (Malaysia) stood in the first position; he contributed the highest number (42) of articles. This is followed by Abrizah Abdullah (Malaysia) who stood in second highest contributions with 14 publications. Edzan, N. N (Malaysia) with 13 publications; Kademani, B. S (India) and Tiew Wai Sin (Malaysia) with 12 publications each; Sen, B.K (Malaysia) and Vijay Kumar (India) with 11 publications each; and Kalyane, V. L (India) with 10 publications each.

Table 6: Authorship Patterns by Country

Country	Number of Contributions
Malaysia	239
India	126

Iran	31
Taiwan	25
Bangladesh	23
Thailand	20
Singapore	14
China	13
Botswana	12
Nigeria	10
Pakistan	9
U.K	8
Australia	6
Kuwait	6
Sri Lanka	6
Belgium	4
Indonesia	3
Jordan	3
Kenya	3
New Zealand	2
South Korea	2
Turkey	2
U.S.A	2
Brunei	1
Perak	1
Scotland	1
Spain	1
Yemen	1
Zambia	1
Total	575

Table 6 shows the total of 29 countries, contributed 279 articles by 575 authors. The most of articles (i.e., 239 (41.565%)) were from Malaysia. The second most contributions were from India (i.e., 126 (21.913%)). This is followed Iran by 31 contributions; Taiwan by

25 contributions. The lowest number of contributions from the countries of Brunei, Perak, Scotland, Spain, Yemen and Zambia each one.

Table 7: Single and Multi Authored Papers by Year

Year	Single Authored Articles	Multi Authored Articles	Total
1996	7	9	16
1997	7	9	16
1998	6	7	13
1999	10	5	15
2000	4	10	14
2001	6	8	14
2002	3	10	13
2003	9	7	16
2004	4	10	14
2005	6	8	14
2006	4	10	14
2007	5	9	14
2008	6	10	16
2009	9	9	18
2010	4	20	24
2011	3	25	28
2012	6	14	20
Total	99 (35.484)	180 (64.516)	279

Table 7 shows that the single and multi authored papers. This reveals that there has been a great strength of multi authored (i.e., 180 (64.516%) research among the contributions. The highest (i.e. 28 (10.036%) authored papers are published in the year 2011 (single author papers 3 multi author papers 25). The lowest papers are published (13 (4.659%) in the years 1998 and 2002 (single author papers 6, 3 and multi authored papers 7, 10). This reveals that there has been great intensity of teamwork for research among the contributions.

Figure 1: Single and Multi Authored Papers by Year

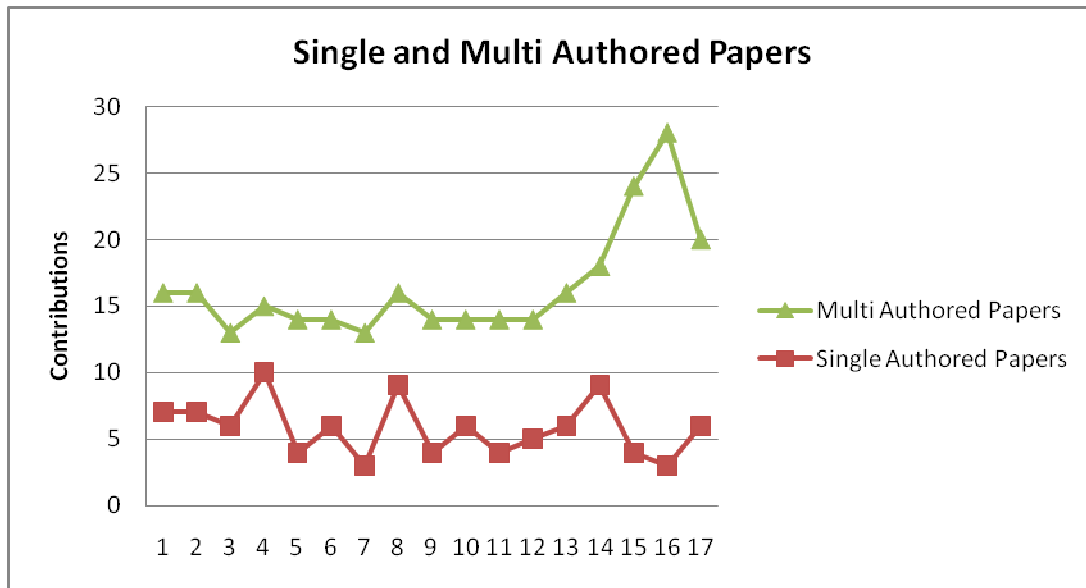


Table 8: Degree of author Collaboration

Year	Single Authored Paper (N _s)	Multi Authored Papers (N _m)	Total (N _m +N _s)	Degree of Collaboration
1996	7	9	16	0.56
1997	7	9	16	0.56
1998	6	7	13	0.53
1999	10	5	15	0.33
2000	4	10	14	0.71
2001	6	8	14	0.57
2002	3	10	13	0.76
2003	9	7	16	0.43
2004	4	10	14	0.71
2005	6	8	14	0.57
2006	4	10	14	0.71
2007	5	9	14	0.64
2008	6	10	16	0.62
2009	9	9	18	0.5

2010	4	20	24	0.83
2011	3	25	28	0.89
2012	6	14	20	0.7
Total	99	180	279	0.64

Table 8 shows the degree of collaboration in the Malaysian Journal of Library and Information Science. To determine degree of author collaboration in quantitative terms, the formula given by K. Subramanyam (1982) was used.

The formula is where

C = Degree of collaboration

NM = Number of multi authored papers

NS = Number of single authored papers

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

$$C = \frac{180}{180 + 99} = 0.64$$

In the present study the average value of C is

$$C = 0.64$$

As a result, the degree of author collaboration in the *Malaysian Journal of Library and Information Science* is 0.64, which clearly indicates its dominance upon multiple author contributions.

Findings and Conclusion

This bibliometric study examines in the Malaysian Journal of Library and Information Science. Eight topics are considered: articles growth by year and volume; authorship patterns by year and volume; authorship patterns; author productivity; single and multi authored papers by year; authorship patterns by global; most prolific contributors; and degree of author collaboration.

The Malaysian Journal of Library and Information Science has been growing over 17 years from publishing research articles. The multi-author collaborations are leading role from early onwards, except in 1999 and 2003.

- There have been 279 articles contributed by 575 authors were identified in last seventeen years. The highest number of research articles 28 (10.036%) were published in 2011 from different countries.
- Out of the 99 contributions by single author, volume 4 has the highest number (i.e., 10 (10.101%) and 16 have the lowest number (i.e. 3 (3.030%) contributions.
- Out of the 111 contributions by two authors, 16 has the highest (i.e. 14 (12.613%). And 3, 4 and 17 has the lowest number (i.e., 3 (2.703%) contributions.
- Out of 46 contributions by three authors, 17 has the highest (i.e. 7 (14.893%) and 4, 9, 10, 12, 13, and 14 has the lowest number (i.e., 1 (2.174%) contributions.
- Majority 180 (64.516%) of the papers have been written in joint authorship. It is seen that only 99 (35.484%) of the publications are single authored and 111 (39.785%) are two authored papers. And 46 (16.487%) are contributed by three authors and the lowest number of contributions (i.e., 1 (0.358%) contributed by eight authors.
- Average Authors per Paper (AAPP), which shows that the average number of authors per all the paper is 2.06. The highest number AAPP of score 3.88 came from 2011. The lowest AAPP score of 1.53 in recorded in 1999.
- Total of 575 authors contributed 279 articles over the period of seventeen years (1996 – 2012). The most prolific contributor Zainab, A. N (Malaysia) stood in the first position; he contributed the highest number (42) of articles. This is followed by Abrizah Abdullah (Malaysia) who stood in second highest

contributions with 14 publications. Edzan, N. N (Malaysia) with 13 publications; Kademani, B. S (India) and Tiew Wai Sin (Malaysia) with 12 publications each; Sen, B.K (Malaysia) and Vijay Kumar (India) with 11 publications each; and Kalyane, V. L (India) with 10 publications.

- Total of 29 countries, contributed 279 articles by 575 authors. The most of articles (i.e., 239 (41.565%)) were from Malaysia. The second most contributions were from India (i.e., 126 (21.913%)). This is followed Iran by 31 contributions; Taiwan by 25 contributions.
- The multi authored papers (i.e., 180 (64.516%)). This reveals that there has been a great strength of multi authored research among the contributions. The highest (i.e. 28 (10.036%)) authored papers were published in the year 2011.
- The degree of author collaboration in the Malaysian Journal of Library and Information Science. To determine degree of collaboration in quantitative terms, the formula given by K. Subramanyam (1982) was used. As a result, the degree of collaboration in the Malaysian Journal of Library and Information Science is 0.64, which clearly indicates its dominance upon multiple contributions.

Some findings are not surprising, the Malaysian Journal of Library and Information Science is publishing articles mostly from Malaysian authors. The most prolific contributor Zainab, A. N, who stood in the first position; he contributed the highest number (42) of contributions. This is followed by Abrizah Abdullah who stood in second highest contributions with 14 publications both are from journal originate place of Malaysia. And also the most part of articles (i.e., 239) are from Malaysia. One surprising and encouraging set of data pertains to the second large number of publications were from India.

In recent years the journal accepting articles from all over the country. As of today, there are 29 countries contributing research articles to the journal. It is getting world-wide popularity and identification by publishing scholarly articles from authors across the world. The journal encourages contribution about professional policies, practices, principles and progress in the library information science (LIS) fields. The journal aims to provide an

opportunity for interactions between LIS professionals, especially within the Asia Pacific region, to introduce new concepts, methodologies, systems and technology in the field. It is one of the most extensive journals that appear in the Directory of Open Access Journals (DOAJ). This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge to the library science professionals.

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