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Abstract

This paper presents bio-bibliometric analysis of the contributions of Dr. Khalid Mahmood in the field of Library and Information Science through his publications. The analysis includes geographical and year wise distribution of publications; collaboration for publication; publications by type; language and journal preferences for the publication; and coverage of different subject areas. Results of the study indicate that Dr. Khalid Mahmood is a prolific writer in the field of library and information science. He contributed 115 items including 99 articles, six books, eight conference papers and two papers in newsletters till December 31, 2011. Research work by Dr. Khalid Mahmood is well accepted in developed countries like United Kingdom and United States of America. He used English language to disseminate majority of his research work. He believes in teamwork and about two third of his research work was result of collaboration.

Key Words: Bibliometrics, Bio-bibliometrics, Bibliometric analysis, Library and Information Science, Library literature, Dr. Khalid Mahmood, Pakistan.

Introduction

Mahapatra (2000) defined the bibliometrics as "the quantitative analysis of the characteristics, behaviour and productivity of all aspects of written communication, library staff and information users" (p. 4). Whereas, Reitz (2010) presented the term 'bibliometric' in the following words:

> The use of mathematical and statistical methods to study and identify patterns in the usage of materials and services within a library or to analyze the historical development of a specific body of literature, especially its authorship, publication and use. Prior to the mid-20th century, the quantitative study of bibliographic data and usage was known as statistical bibliography.

There are many outcomes of bibliometric study such as to find out the publication productivity, collaboration for publication, year-wise distribution of work, language and journal preferences, and span of subject areas. It identifies the communication channel, prolific authorship and relevant papers, organizations and countries producing relevant papers. Naseer and Mahmood (2009) conducted a study titled 'Use of bibliometrics in LIS research' in which they stated that "Bibliometric methods have been effectively utilized to solve a variety of issues in LIS but this area of LIS research has failed to get attention of researchers in Pakistan" (p. 7). Similarly, describing the uses of bibliometric techniques Thanuskod (2011) said that:

> Bibliometric techniques are being used for a variety of purposes like determination of various scientific indicators, evaluation of scientific output, selection of journals for libraries and even forecasting the potential of a particular field. The popularity in the adaptation of bibliometric techniques in various disciplines stimulated stupendous growth of literature on bibliometrics and its related areas. (p. 75)

Bio-bibliometric is a study in which we statistically analyze publications of an individual, a department, or a subject of any field. It is a quantitative and analytical method in which we try to establish a functional relation between bio-data of an individual and his biblio-data. It helps us to decide the attractiveness and impact of

particular articles, authors, and publications by determining the most cited authors, papers and journals. Mathematical and statistical techniques are used to study a publication's pattern, preferences, author's collaboration and chronological distribution of publications.

A number of bio-bibliometric studies have been carried out throughout the world in different fields of study. Sin (1999) analyzed and presented the works of a popular Malaysian historian Professor Khoo Kay Kim. He presented an analysis of the authorship pattern, journal preference and language preference. This study also discovered Kim's channel of communication and publication productivity. Similarly, Sangam and Savanur (2006) carried out bio-bibliometric study of Dr. N. Rudraiah, a famous Indian mathematician. In their study, they analyzed the channel of communication, publication productivity, authorship pattern, and journal preference of Dr. N. Rudariah. Koley and Sen (2006) carried out a bio-bibliometric on Professor B. N. Koley, an eminent Indian physiologist. In their research, they analyzed authorship pattern and collaboration coefficient, chronological distribution of research articles. Parvathamma and Gobbur (2008) carried out a biobibliometric study on T. M. Aminabhavi, a well-known polymer scienticsts. In their research work, they explored collaboratin coeficient, authorship pattern, popular articles and conference papers.

In Pakistan, Mahmood and Rehman (2009) conducted a bio-bibliometric analysis of Professor Dr. Anis Khurshid's publications. Dr. Khurshid was a well-known personality in field of library and information science in Pakistan. In this study, analysis included year and type wise distribution of the articles. Authorship collaboration of Dr. Khurshid was also presented in this study. The study was the first of its kind in Pakistan in the field of bio-bibliometrics. In another study, in the field of bio-bibliometrics in Pakistan, Kousar and Mahmood (2010) presented the analysis of

contributions of Dr. Syed Jalaludin Haider to LIS field. In this analysis of publications, periodical wise distribution of his work, pages produced, author collaboration and subjects covered were studied. The present study compromises of an analysis of the research work of Dr. Khalid Mehmood in the field of library and information science.

Biographical Sketch of Dr. Khalid Mahmood

Dr. Khalid Mahmood was born on 10 April 1966 at Sharqpur, a town in District Sheikhupura. He got his early education from his native town. After completing his graduation from University of the Punjab in 1986, he did diploma in Library and Information Science from the same university in 1988. He got Master Degree in Library and Information Science in 1989. He obtained Postgraduate Diploma in Library Management from Netherlands in 1996. In 2004, he acquired Ph.D. in Library and Information Science from University of the Punjab Lahore, Pakistan. He did his Post Doctorate study in Information Studies form University of California, USA in 2011 (Ansari, 2007).

He started his career as a Librarian in Education Department, Government of Punjab in 1989. From 1991 to 1993, he served as Librarian in Quaid-e-Azam Library, Lahore. In 1993, he joined Punjab University as Lecturer in Library Science Department. He performed the duties of Chairman, Library Science Department from 2006 to 2009. Presently he is performing his duties as Professor in Department of Library and Information Science, University of the Punjab, Lahore, where he is teaching modern subjects of Library Science like Digital Libraries, Research Methods, Online Information Retrieval, and Applied Library Automation etc. He has contributed a lot in enhancing the higher education in the field of Library and Information Science in Pakistan. He is supervising research work of many Ph.D. and M. Phil. scholars.

Four students have successfully completed their Ph.D. research under his supervision. He has also supervised large number of Master level theses (Wikipedia, 2012).

Dr. Khalid is performing the editorial responsibilities of different national and international journals (University of the Punjab, 2011). He has also completed various projects of library science for automation and modernization of this field like "Development of a Modern Library at Punjab Local Government Academy, Lalamusa funded by CIDA (Canadian International Development Agency)" and "Library Automation at Punjab Provincial Assembly" (Wikipedia, 2012). He attended large number of conferences, seminars and workshops at national and international level.

Objectives of the Study

The objectives of this bio-bibliometric study on Dr. Khalid Mahmood were:

- To identify geographical and year wise distribution of publications
- To find collaboration for publication
- To analyze the publications by type
- To explore the language and journal preferences
- To study the coverage of different subject areas

Methodology

Data for this study was collected from official website of University of the Punjab where Dr. Khalid Mahmood is presently serving. Other online and print sources were also used for data collection. A publication, which appeared in both English and French languages, was considered as one publication. Items published until December 31, 2011 were included in this study. Articles accepted for publication in any national or international journal, pending in press or published after December 2011 were not included in the study. Data were recorded and analyzed using Microsoft Excel.

Findings and Discussion

Dr. Khalid Mahmood started writing in 1993. He has written five books, one web version book, 101 articles (including two articles in newsletters), and eight conference papers until December 31, 2011 (see Table 1). Most of his work consists of

Table 1

Year wise Distribution

Year	Books	Books (web version)	Articles	Conference Papers	Newsletter articles	Total	Percentage	Cumulative Percentage
1993	-	-	2	-	-	2	1.74	1.74
1994	-	-	-	-	-	0	0.00	1.74
1995	-	-	3	-	-	3	2.61	4.35
1996	-	-	9	-	1	10	8.70	13.04
1997	-	-	10	-	1	11	9.57	22.61
1998	1	-	5	-	-	6	5.22	27.83
1999	1	-	2	-	-	3	2.61	30.44
2000	-	-	1	-	-	1	0.87	31.31
2001	-	-	1	-	-	1	0.87	32.17
2002	-	-	1	-	-	1	0.87	33.04
2003	-	1	2	-	-	3	2.61	35.65
2004	1	-	2	-	-	3	2.61	38.26
2005	-	-	8	-	-	8	6.96	45.22
2006	-	-	6	-	-	6	5.22	50.44
2007	-	-	3	-	-	3	2.61	53.04
2008	-	-	10	-	-	10	8.70	61.74
2009	1	-	14	3	-	18	15.65	77.39
2010	-	-	14	1	-	15	13.04	90.44
2011	1	-	6	4	-	11	9.57	100.00
Total	5	1	99	8	2	115		
%	4.35	0.87	86.09	6.96	1.74	100		

journal articles (87.83%). Year wise distribution of his work shows that most productive year was 2009 when he contributed 18 items. Another very productive year was 2010 in which he published 15 items. Dr. Khalid was contributing to LIS literature most actively during the last four years of this study (2008 to 2011) and this period was most productive time for him. He published or presented more than 47 per cent (54 items) of his work during this time.

Languages wise distribution of publications shows (see Table 2) that 108 (93.91%) out of 115 items were written in English language while seven items (6.09%) were written in Urdu language. This demonstrates that Dr. Khalid Mahmood has presented his work in an international language to highlight the Pakistani LIS literature in the world.

Table 2

Language wise Distribution

Language	Books	Books (web version)	Articles	Conference Papers	Newsletter articles	Total	Percentage
English	5	1	92	8	2	108	93.91
Urdu	-	-	7	-	-	7	6.09
Total	5	1	99	8	2	115	100

Periodical preference of Dr. Khalid Mahmood for publication is presented in Table 3. It covers 101 articles published in various online and print journals, magazines, and newsletters. More than fifty-two percent of these articles were published in seven journals and magazines, which include *Pakistan Library and Information Science Journal* (11), *Information Development* (9), *Library Philosophy and Practice (*9), *Library Review* (9), *Pakistan Journal of Library and Information Science* (5), *Pakistan Library Association Journal* (5), *Pakistan Library Bulletin* (5). There were 24 journals and magazines in which Dr. Khalid Mahmood published only

one article each. Data analysis shows that he contributed to both local and international LIS literature.

Table 3

Periodical Preference for Publication

S. No.	Title of Periodical	Total Publications	Percentage
1	Pakistan Library and Information Science Journal	11	10.89
2	Information Development	9	8.91
3	Library Philosophy and Practice	9	8.91
4	Library Review	9	8.91
5	Pakistan Journal of Library & Information Science	5	4.95
6	Pakistan Library Association Journal	5	4.95
7	Pakistan Library Bulletin	5	4.95
8	Pakistani Librarian	4	3.96
9	The Electronic Library	4	3.96
10	Program: Electronic Library and Information Systems	3	2.97
11	The International Information & Library Review	3	2.97
12	Chinese Librarianship: An International Electronic Journal	2	1.98
13	Education for Information	2	1.98
14	Library Management	2	1.98
15	PULSAA News	2	1.98
16	World Libraries	2	1.98
17	Asian Libraries	1	0.99
18	Collection Building	1	0.99
19	Cyber Psychology & Behavior	1	0.99
20	Electronic Library and Information Systems	1	0.99
21	IFLA Journal	1	0.99
22	INFOISIS	1	0.99
23	Information Systems	1	0.99
24	INSPEL	1	0.99
25	International Cataloguing & Bibliographic Control	1	0.99
26	International Journal of Education and Development using Information and Communication Technology	1	0.99

Table 3 (Continued)

S. No.	Title of Periodical	Total Publications	Percentage
27	Journal of Education for Library and Information Science	1	0.99
28	Journal of Library & Information Services in Distance Learning	1	0.99
29	Journal of Library Administration	1	0.99
30	Journal of Pakistan Education Foundation	1	0.99
31	Library HiTech News	1	0.99
32	Library Software Review	1	0.99
33	LIBRES: Library and Information Science Research Electronic Journal	1	0.99
34	Libri: International Journal of Libraries and Information Services	1	0.99
35	Malaysian Journal of library & Information Science	1	0.99
36	Research Journal: Social Sciences	1	0.99
37	Research Journal University of Balochistan	1	0.99
38	The Bottom Line: Managing Library Finances	1	0.99
39	The Electronic Journal of Academic and Special Librarianship	1	0.99
40	Webology	1	0.99
		101	100.00

Table 4

Conference Preference

S. No.	Title of Conference	Total papers	Percentage
1	First Open LIS Professionals Conference, Islamabad	4	50
2	18th Pakistan Library Association Conference, Islamabad	2	25
3	Asia-Pacific Conference on Library & Information Education and Practice (A-LIEP 2009) University of Tsukuba, Japan	1	12.5
4	Qualitative and Quantitative Methods in Libraries International Conference, China	1	12.5
	Total	8	100

Conference preference shows (see Table 4) that six out of eight papers were presented in local conferences while two papers were presented at international level. This shows that Dr. Khalid Mahmood more actively participated in local conferences than international conferences. Thus, he strengthened the LIS field in Pakistan besides contributing to international literature.

Table 5 shows the keyword frequencies in titles of works by Dr. Khalid Mahmood. The frequency chart indicates that his main areas of interest were library and information science education in Pakistan, university libraries, library funding, LIS research, and modern technologies related to library and information science. This highlights that he has written on variety of topics covering different areas of Library and Information Science field.

Table 5

Keywords Preferences

Keywords	Frequency
Pakistan	42
Library fundraising	8
University libraries	8
Lahore	7
Survey	7
University of the Punjab	6
Electronic Libraries	5
Internet in the libraries	5
Library and Information Science	5
Macro CDS/ISIS	5
ICT	4
Information society	4
Information technology	4
LIS professionals	4

Table 5 (Continued)

Keywords	Frequency
Library Services	4
Library software	4
LIS research	4
Pakistani Libraries	4
Academic Librarians	3
Allama Iqbal Open University	3
Attitude	3
Bibliometric	3
Citation analysis	3
Developing countries	3
Development	3
Information needs	3
Information system	3
Library education	3
LIS curriculum	3
Pakistani Librarians	3
Reference services	3
Subject index	3
Classification scheme	2
Education	2
Free and open source	2
Information sources	2
Library	2
Library Automation	2
Library Automation and Management Program	2
LIS profession	2
OPAC	2
Pakistani Librarianship	2
Pakistani university libraries	2

Table 5 (Continued)

Keywords	Frequency
Plagpk	2
Training	2
Academic Libraries	1
Administrators	1
Agricultural Libraries	1
Assessment needs	1
Cataloguing practice	1
Communication	1
Competencies	1
Computer training	1
Computerized	1
Copyright	1
Curriculum	1
Distance education	1
Distance library support services	1
Dr. Anis Khurshid	1
Dr. Syed Jalaludin Haider	1
Educated Pakistani adults	1
Education Enterprise	1
Educational administrators	1
Educational information systems	1
Emerging trends	1
Future	1
Gender	1
Human resources	1
Impact of IT	1
Information services	1
Integrated library software	1
Internet café	1

Table 5 (Continued)

Keywords	Frequency
Islamic literature	1
Islamic studies scholars	1
Knowledge Management	1
Libraries in Pakistan	1
Libraries services	1
Library activities	1
Library co-operation	1
Library Job	1
Library leaders	1
Library Literature	1
Library profession	1
Library security system	1
LIS journals	1
Mailing groups	1
Medical researchers	1
Needed information	1
Netherlands Library Development Project	1
Organizational culture	1
Pakistan library and Information Council	1
Pakistan Library Association Conference	1
Promoting information technology	1
Public libraries	1
Reading habits	1
Rural development	1
Seeking behavior	1
Software movement	1
Subject cataloguing	1
Technical services in libraries	1
Technology challenge	1
Web-based services	1

Geographical distribution of work by Dr. Khalid Mahmood is presented in Table 6. It shows that about sixty-one percent of his work was published or presented in foreign countries while remaining 39 percent was published or presented in Pakistan. It shows that, he has very successfully promoted Pakistani librarianship and library literature in the international LIS community.

Table 6

Geographical Distribution

Region	Books	Books (web version)	Articles	Conference Papers	Newsletter articles	Total	Percentage
Foreign	2	-	66	2	-	70	60.87
Local	3	1	33	6	2	45	39.13
Total	5	1	99	8	2	115	100.00

Table 7 shows the geographical distribution of work by Dr. Khalid Mahmood, which was published or presented with in Pakistan. The distribution shows that highest number of items (44.44%) was published from Karachi followed by Lahore (28.89%). This is because Karachi and Lahore were the nucleus of journal publishing activities in LIS in Pakistan. He presented all of his conference papers in those conferences, which were held in Islamabad.

Table 7

Geographical Distribution Within Pakistan

Region	Books	Books (web version)	Articles	Conference Papers	Newsletter articles	Total	Percentage
Islamabad	-	-	5	6	-	11	24.44
Lahore	1	-	10	-	2	13	28.89
Karachi	2	1	17	-	-	20	44.44
Quetta	-	-	1	-	-	1	2.22
Total	3	1	33	6	2	45	100.00

Geographic distribution of work by Dr. Khalid Mahmood, published or presented outside Pakistan, is shown in Table 8. It indicates that the majority of his work was published in developed countries like United Kingdom (31 items, 44.29 %), United States of America (21 items, 30%), Germany (Five items, 7.14%) and Netherlands (Four items, 5.71%). Data analysis demonstrates that work of Dr. Khalid is well accepted especially in those countries, which are leading in Library and Information Science research.

Table 8

Geographical Distribution Outside Pakistan

Region	Books	Articles	Conference Papers	Total	Percentage
Argentina	-	1	-	1	1.43
Australia	-	1	-	1	1.43
Canada	-	1	-	1	1.43
China	-	1	-	1	1.43
Germany	2	3	-	5	7.14
Greece	-	-	1	1	1.43
Iran	-	1	-	1	1.43
Japan	-	-	1	1	1.43
Malaysia	-	1	-	1	1.43
Netherlands	-	4	-	4	5.71
United Kingdom	-	31	-	31	44.29
United States of America	-	21	-	21	30.00
West Indies	-	1	-	1	1.43
Total	2	66	2	70	100.00

Collaboration is very important for Library and Information Science research. Study of authorship collaboration provides measure of cooperation in the subject. Table 9 shows that Dr. Khalid wrote 44 items (38.26%) as signal author. Two authors jointly wrote 46 items (40.00%) while three authors contributed 24 items (20.87%). He

joined the team of three other authors only once to produce an article. The data indicate that almost two third of his work is result of collaborative efforts. It also shows that he likes to work in teams.

Table 9

Author Collaboration

Authorship	Books	Books (web version)	Articles	Conference Papers	Newsletters	Total	Percentage
Single	3	-	39	1	1	44	38.26
Two Authors	1	1	40	4	-	46	40.00
Three Authors	1	-	19	3	1	24	20.87
Four Authors	-	-	1	-	-	1	0.87
						115	100.00

Conclusion

Based on analysis conducted during this study, we can conclude that Dr. Khalid Mehmood is a very prolific researcher. The prevailing lack of resources and unfavorable research atmosphere in the country has not created obstacles in the way of his research. He has presented and promoted Pakistani librarianship throughout the world. This study demonstrated that statistical analysis of publications can be used as information regarding contribution of professionals in any field of study. Bibliometric studies can be a source of inspiration and productivity for the young professionals. Though this study was conducted in the field of library and information science, it can be a useful example in other disciplines also.

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