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Library and Information Science Research at University of Karachi, Pakistan from 2000 to 2022: A bibliometric analysis

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Abstract

The study aimed to evaluate the bibliometric research of Library and Information Science (LIS) research contributed by the authors affiliated with the University of Karachi (UoK), Pakistan. The dataset was limited to 22 years from January 2000 to December 2021 and a list of evaluated papers has been proved from various online and print sources. Google Scholar has been employed to access the record of citation(s). Ninety-two papers were identified with at least one author affiliated with the UoK on the subject category of LIS and these papers were cited 707 times. Two-author collaboration was found to be the preferred authorship pattern and the papers written in this pattern got a better citation result. A number of research articles' contributions have been found that female authors are more than male authors. Syed Jalaluddin Haider, Munira Nasreen Ansari and Farhat Hussain emerged as the most prolific authors with 26, 25 and 15 papers, respectively. The papers published in international journals got higher citations and about threefourth of the papers were published in the top 11 sources which in found from these research. The subject dispersion revealed that LIS Education and Library Management were the favorite areas. The characteristics of the ten most cited papers revealed that 60% citations were gained by these papers. The findings of this paper support understanding the research trends in LIS at UoK. There is a need to accelerate the research activities, revisit the research policies and promote the research culture in the UoK.

Keywords; University of Karachi, Library and Information Science Research, Research Productivity, Bibliometric

Introduction

Library and Information Science (LIS) is a significant element of the education system and plays an important role in the Research & Development organization. The quality of LIS education has been reflected by the excellence in library services being offered by the LIS professionals to their respective communities and their research output (Haq 2021; Ameen 2013). The LIS research activities assist to improve the standard of services, help to device new theories and expand the boundaries of existing knowledge (Naseer & Mahmood 2009). Professional growth of LIS discipline in a specific institution can be examined through the research produced by the faculty and students of that institution (Ahmad & Warraich, 2013; Haq & Alfouzan 2019).

Although, the University of the Punjab has been one of the pioneer institutions to offer modern LIS education in the Sub-Continent since 1915. Before this historic move, Maharaja Sayajrao III, Gaekwar of Baroda State in British India, invited William Alanson Borden, an American librarian to train the library staff in the Baroda Central Library at the Baroda State in 1910-1911 (Nagar 1983, p-15).

At the University of the Punjab, an American librarian, teacher and student of Melvil Dewey, Asa Don Dickenson was given a task to re-organize the central library and train the local librarians in 1915. Eventually, the first Library Science Certificate Course at the University level was started in Lahore,

Dickenson wrote a textbook "*Punjab Library Premier*" and laid the foundation stone of modern LIS research in the area, now geographically located in Pakistan. This course continued to produce trained librarians till the partition of British India in 1947. After the creation of Pakistan, this course was suspended for a few years as most of the Hindu librarians and teachers migrated to India and this course was re-started in 1951 (Khurshid 1970; Anwar 1990; Haider & Mahmood 2007). The need for a postgraduate diploma course in LIS was felt and the same was started at the University of Karachi (UoK) in 1956. Later, Master's degree program and Ph.D. in LIS were commenced at the UoK in 1962 and 1967, respectively. Currently, thirteen Pakistani universities are offering post-graduate courses in LIS (Hussain et al., 2018).

UoK is a premier public sector degree-awarding higher education institution and it is recognized as a leading center of learning and research in Pakistan. It was established in 1951 and shifted to the present campus in 1959. Its situated 12 Km away from the center of the city and spread over 1279 acres. The teaching set-up of the university is comprised of six faculties, with 52 departments and 19 research institutions/centers and imparting the state of the art education to more than 40,000 enrolled students. The teaching faculty comprises more than 700 highly qualified and experienced teachers and more than 2,000 non-teaching staff available to support the educational affairs as well as the administrative matters. Other than the main campus, 145 colleges/institutions with 150,000 students are affiliated with UoK. The university is responsible to conduct examines, preparing their results and awarding degrees to the students of these affiliated colleges/institutions (University of Karachi, 2022).

Abdul Moid, the librarian of UoK was sent to Michigan University, United States for higher studies in Library Science, where he opted for Master's level research study on the prospect of postgraduate library education at the UoK. He obtained his degree in 1955, after that his efforts and the personal interest of Dr. Mahmud Husain, then the Dean of Faculty of Arts, the postgraduate diploma course was started on 10th August 1956 and it was upgraded into a Master's level degree in 1962 (Haider 1984; Sabzwari 2004; Haider 2007; Hussain et al., 2018). Since then, the university is not only imparting quality education but also producing valuable research.

The evaluation of research performance of faculty and researchers at an institutional level constitutes a vital indicator of the academic brilliance and is frequently considered a source of institution reputation (Allen 2010; Shehatta & Mahmood 2016; Tanveer & Karim 2019; Haq et al. 2020). The quantitative method named *bibliometric* is used to measure the growth of publications and their attributes. It helps to understand the substantial details of prevailing patterns of publication, research trends, citation impact, collaboration and authorship designs (Glänzel 2008; Ullah & Ameen 2021). The findings of bibliometric studies are imperative to revisit the research policies, allocation of funds, and strategic decision-making process. In the contemporary competitive academic environment, the ranking of institutions, subject areas and researchers have been calculated on the basis of their research productivity (Debackere & Glänzel 2004; Gaillard 1992).

The current study aims to examine the research progress in the area of LIS produced by the authors affiliated with the UoK from 2000 to 2021.

Objectives

The paper contributed by the UOK on LIS from January 1st, 2000 to December 31st, 2021 were acquired to ascertain the answers to the following objectives.

- 1. To assess the periodic growth of papers and their citations.
- 2. To analyze the authorship pattern, identify the productive author and distribute the authors by gender.

- 3. To review the commonly used sources of publications (journals)
- 4. To highlight the preferred areas of LIS research
- 5. To examine the characteristics of top-10 highly cited papers.

Research Methodology

A bibliometric research method was applied to the scholarly publications produced by authors affiliated with UoK, Pakistan. All the papers written in the English language on the subject category of LIS from 2000 to 2021 have been included in the analysis with at least one author affiliated to the UoK: Whereas, papers written in Urdu language, unpublished research theses, unpublished conference papers, and papers published in newspapers were excluded.

Targeted data was searched from various online databases, including Web of Science, Scopus, Google Scholar, Library Information Science & Technology Abstracts (LISTA), Research gate and browsed in locally published journals. A bibliography of papers was prepared and arranged in chronological order as attached in the Appendix. The citations' record of papers was obtained from Google Scholar in the last week of April 2022. Microsoft Excel was used for data analysis. Albeit, the authors of this study try to get maximum results, despite that, some paper(s) may have been overlooked.

Literature Review

The term bibliometric was coined by Alan Pritchard and defined as the application of mathematics and statistics to measure the quantitative and qualitative aspects of different media (Prichard 1969). The bibliometric analysis measures the periodic growth of literature and subject dispersion of articles published in different journals or one journal on the same area of knowledge (Patra & Chand 2006).

Several studies have been done that dealt with the bibliometric aspects of LIS literature in Pakistan. The earliest work was done by Haider (1978) and he assessed the 275 theses submitted by LIS students of UoK from 1967 to 1975. The topological distribution of theses showed that the maximum number of theses (n=100; 36.36%) were written in the subject category of *Bibliographies, Union Catalogues & Indices*, followed by the *Survey of Resources* (n=42; 15.27%) and *Survey of Libraries* (n=32; 11.63%). The paper concluded that the LIS research in Pakistan had gone through an embryonic phase in spite of that some Master's level theses and research produced by the faculty laid the foundation of research. Siddiqui and Hussain (2019) also analyzed the 105 theses submitted by MLIS students to UoK from 2000 to 2015. The survey of different libraries (31%) was the preferred area of theses followed by library automation. The majority of the theses (59%) were written in the English language.

There was a scarcity of local LIS literature till the 1990s but after that, the scenario improved gradually. Now the number of competent and motivated professionals contributing valuable research on the various aspects of librarianship and information management-related areas (Ahmed & Warraich, 2013).

Mahmood (1996) examined 97 papers on Pakistan LIS services published in international journals from 1947 to 1995. These papers were contributed by 66 authors and the top-two most productive authors, Syed Jalaluddin Haider and Anis Khurshid with 12 and 11 papers, respectively, belonging to the UoK. Anwar and Saeed (1999) investigated the LIS research of Pakistan indexed in the LISA-PLUS database and they identified 251 papers contributed by 71 authors. Anis Khurshid emerged as the most productive author with 22 papers.

Anis Khurshid had been associated with UoK for a long time. He started his career as a classifier in the main library of the University in 1954 and retired as a full professor from the department of LIS in 1986. He contributed 182 items from 1957 to 2003 and the highest number of items (n=17) was published in

1981. Three-fourth of his work was published in the English language while the other was published in the national language of Pakistan, Urdu. The majority of his work (n=172; 94.51%) was published as a single author. He is the only LIS professional, who was awarded the prestigious civil Award of the country, The Pride of Performance Award in 1997 (Mahmood & Rehman 2010). Naseer (2015) studied the author's productivity in LIS literature of Pakistan from 1947 to 2008. He collected 4,934 items contributed by 2,609 authors and Anis Khurshid appeared as the most prolific author with 88 items.

Syed Jalaluddin Haider also served in UoK and produced 96 items during the period of 41 years from 1968 to 2008. His papers were published in 36 journals and the highest number of papers (n=28) were published in *Pakistan Library and Information Science Journal (PLISJ)* (Kousar & Mahmood 2010). The ratio of his collaborative work (12.5%) has been higher than Anis Khurshid (5.49%).

Khan and Samdani (1997) measured the publication trends of 506 documents published in the *Pakistan Library Bulletin* from 1968 to 1997. The highest number of papers were written in descriptive nature only 4.15% of papers followed the empirical research method. The distribution of papers based on gender showed that 91% of the papers were contributed by the male authors and 76% of the material was published in the English language. *Academic Libraries and Librarianship* and *Information Communication Technologies* were the preferred areas of research.

Shadab (2009) evaluated the 557 documents published in *PLISJ* from 1968 to 2007. These documents were contributed by 280 authors, 93% of documents were written by a solo author pattern and Nasim Fatima emerged as the most prolific author and UoK as the most contributing institution with 37 and 114 documents, respectively. Another bibliometric study conducted by Naseer and Mahmood (2009) was limited to 236 documents published in *PLISJ* from 1998 to 2007. About 40% of the papers were focused on the subject area of *Industry, profession and education* followed by *Libraries as physical collection* (18%). About 11.4% of the papers were written in collaborative efforts and 32.2% of the literature was produced by female authors. The majority of the documents (61%) were of descriptive nature. The study recommended that the detail information about the author should be provided so the readers could know the background of the authors.

Ahmed and Warraich (2013) evaluated the patterns of LIS research produced by the authors belonging to the Punjab province of Pakistan from 2007 to 2012. A total of 172 papers were found in the targeted period and more than two-thirds of the papers (67%) were published in international sources. Two-author pattern (n=91; 54%) was found the preferred collaboration pattern, while 51 papers were produced by a single author pattern. The University of the Punjab contributed the highest number of papers (n=82; 47.67%), followed by the Islamia University of Bahawalpur (n=25; 14.53%) and the University of Sargodha (n=16; 9.30%). The topical distribution of papers enclosed that *Library Education* was the main subject area for researchers, then *Information Computer Technology* and *Libraries and Information Centers*. The study concluded that formal LIS research education programs in Pakistan have an affirmative influence on young researchers.

Naseer (2016) investigated the growth of LIS literature in Pakistan from 1947 to 2008. A total of 5,195 items were identified and about 30% of the literature was produced during 1985-1997. The major portion of items was comprised of articles (39%), followed by theses (26%) and books (23%).

Haq and Alfouzan (2019) studied the 369 documents published in *PLISJ* from 2008 to 2017. The ratio of English and Urdu documents was 67% and 33%, respectively. Fifty-eight percent of the documents were written by a single author pattern while about 67% were contributed by the male authors. The highest number of the documents (n=138) had been contributed by the authors belonging to the Karachi.

Siddique et al. (2021) analyzed the LIS research in Pakistan indexed in the four databases (LISA, LISTA, Web of Science and Scopus) from 1957 to 2018. A total of 1,305 papers were identified. The LIS faculty affiliated with University of the Punjab contributed the highest number of papers (n=360; 27.58%), followed by the UoK (n=171; 13.10%). The study also asserted that UoK was the most productive institution in LIS research in Pakistan from 1957 to 2003 with 112 papers, followed by the University of the Punjab with 40 papers but later their output had been reduced and the UoK produced only 25 papers from 2010 to 2018, while in the same period, the University of the Punjab contributed 255 papers.

Patra and Chand (2006) explored the LIS research in India from 1967 to 2004. A total of 3,396 records were retrieved from the Library and Information Science Abstracts (LISA) database. The fluctuation has been observed in the growth of literature but the highest number of papers (n=208) was published in 1999. The majority of the research was done by a single author pattern and more than half of the papers were published in top-12 journals. Rana (2011) examined 623 Ph.D. theses on LIS, awarded by the Indian Universities from 1957 to 2009. Karnatak University produced the highest number (n=58) of Ph.D. in LIS and a spectacular growth of degrees (43%) was observed from 2001 to 2009. *Library Use and User Studies* (n=78; 12.50%) was the preferred area of research followed by *University Libraries* (n=51; 8.17%) and *Public Libraries* (n=39; 6.25%). *School Libraries, Quality Management* and *Children Literature* were some of the least focused areas of research.

Results

Figure-1 shows that a total of 92 papers have been identified on the subject area of LIS from different sources under the authorship affiliated with the UoK. These papers were published in the 22 years from 2000 to 2021 with an average of 4.18 papers per year. The highest number of papers (n=12) were published in the year 2019, followed by eight papers each in the years 2006 and 2018. The year 2009 has passed without any publication. All the identified papers were cited 707 times with an average of 7.68 cites/paper as per the Google Scholar database. About two-thirds (n=60; 65.21%) of the papers were cited ranging from minimum one citation to maximum 109 citations and 34.79% of papers didn't gain any citation till the date of data collection. There are two peaks against 2010 and 2007 in the citation counts line in Figure-1 showing that the papers published in these years got the highest number of citations.

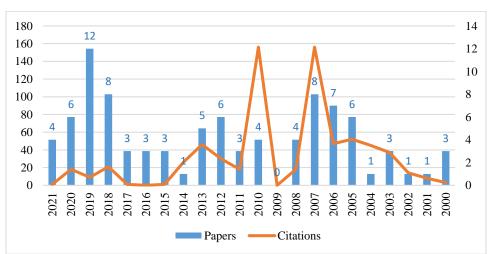




Table-1 describes the authorship pattern of papers, a two-author pattern was found most frequent, followed by a single author (n=34) and a three-author pattern (n=16). Only four papers followed the more than three authors' collaboration pattern. The highest citation impact, 9.71 cites/paper was found against

the two-authors pattern followed by 7.26 cites/paper gained by single author papers and 5.69 cites/papers by the three-author pattern.

Serial No.	Authorship Pattern	Total Papers	Total Citations	Citation Impact
1.	Single-author pattern	34	247	7.26
2.	Two-authors pattern	38	369	9.71
3.	Three-author pattern	16	91	5.69
4.	Four-author pattern	4	0	0.00

Table-1, Authorship Pattern with number of papers, citations and citation impact

A total of 174 authors including multiple counts contributed to 92 papers with a mean ratio of 1.89 authors per paper. As a distinct name, a total of 52 authors were identified, a slightly more than two third (n=35; 67.30%) of the total authors contributed to a single paper each. Seventeen authors produced more than one paper as shown in Table-2. Syed Jalaluddin Haider was found the most productive author followed by Munira Nasreen Ansari, Farhat Hussain, Muhammad Waseem Zia and Rafat Parveen Siddiqui. These top-five authors contributed more than ten papers each and all belong to UoK. Khalid Mahmood and Kanwal Ameen affiliated with the University of the Punjab served as co-authors with Syed Jalaluddin Haider. As far as the citation impact is concerned, two papers produced by Kanwal Ameen with Syed Jalaluddin Haider got the highest citation impact followed by the two papers of Nisar Ahmed Zuberi of Department of Mass Communication, UoK with Munira Nasreen Ansari.

Serial No.	Name of Researcher	Total Papers	Total Citation	Citation Impact
1.	Syed Jalaluddin Haider	26	360	13.85
2.	Munira Nasreen Ansari	25	258	10.32
3.	Farhat Hussain	15	5	0.33
4.	Muhammad Waseem Zia	13	55	4.23
5.	Rafat Parveen Siddiqui	11	2	0.18
6.	Khalid Mahmood	9	79	8.78
7.	Naveed-e-Sehar	9	31	3.44
8.	Abdul Hameed	7	73	10.43
9.	Nasim Fatima	4	2	0.50
10.	Ghulam Mustafa	3	15	5.00
11.	Humaira Tariq	3	0	0.00
12.	S. M. Aqil Burney	3	0	0.00
13.	Attya Shahid	2	16	8.00
14.	Hira Ashfaq	2	4	2.00
15.	Kanwal Ameen	2	62	31.00
16.	Nisar Ahmed Zuberi	2	49	24.50
17.	Rabia Aslam	2	10	5.00

Table-2, Productive authors, their number of papers, citations and citations impact

The analysis of authors by gender illustrates that out of the total 52 authors, 37 (71%) were female and 15 (29%) were male but male authors contributed to 69 (75%) papers while female authors contributed to 66 (71%) papers.

All the selected papers have been published in 33 different journals and the highest number of papers (n=27; 29.34%) were published in *Pakistan Library and Information Science Journal*, followed by

Library Philosophy and Practice (n=19) and *Journal of History and Social Sciences* (n=6). There were 22 journals with a single paper each while 11 journals published two or more than two papers. Forty-nine papers (53%) were published in 25 international journals and these papers gained 617 citations (12.59 cites/paper) while 43 papers (47%) were published in eight locally published journals and these papers were cited 90 times (2.09 cites/paper). Table-3 shows the detail of 11 journals that published more than one paper each with citations-count and the origin of publication. Seventy-five percent (n=70) of the papers were published in these journals and these papers gained 64% (n=456) of the total citations.

Serial No.	Name of Journal	Total Papers	Total Citations	Origin
1.	Pakistan Library & Information Science Journal	27	68	Local
2.	Library Philosophy and Practice (e-journal)	19	163	Foreign
3.	Journal of History and Social Sciences	6	2	Local-UoK
4.	Chinese Librarianship: an International Electronic Journal	3	57	Foreign
5.	Pakistan Journal of Library & Information Science	3	17	Local
6.	International Journal of Advanced Research	2	0	Foreign
7.	Journal of Mass Communication Department	2	0	Local-UoK
8.	Library Review	2	62	Foreign
9.	Malaysian Journal of Library & Information Science	2	46	Foreign
10.	The Bottom Line	2	41	Foreign
11.	The Islamic Culture "As-Saqafat-ul Islamia" - Research Journal-Sheikh Zayed Islamic Centre, University of Karachi	2	0	Local-UoK

Table-3, Frequently used publication sources with number of papers, citations and origin

Table-4,	Most	Preferred	Areas	of LIS	Research
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Serial	Subjects	Total	Total	Citation
No.	Subjects		Citations	Impact
1.	LIS Education	12	33	2.75
2.	Library Management (Human Resource Management and Job related papers)	10	84	8.40
3.	Information Seeking Behaviour	8	66	8.25
4.	Library Finances	7	66	9.43
5.	Reading Habit	6	16	2.67
6.	Library Automation (n=5), Information Communication Technologies (n=3) & Electronic Resources (n=1)	9	159	17.67
7.	School Libraries	5	27	5.40
8.	User Studies	4	36	9.00
9.	Collection Development	3	62	20.67
10.	Resource Sharing	3	35	11.67

The of subject dispersion of papers shows that papers have been written on multiple areas of LIS. *LIS Education* was found the most preferred subject area with 12 papers followed by *Library Management* and *Information Seeking Behaviour* with 10 and 8 papers, respectively. The papers written on *Collection*

Development got the maximum number of citations followed by Library Automation and Resource Sharing. The lowest number of papers were written on LIS Research, Public Libraries, Knowledge Management, and Big Data.

The analysis of top-10 highly cited papers shows that 60% (n=427) of the total citations were gained by these papers. These papers were published between the years from 2007 to 2014 and six papers were contributed by Syed Jalaluddin Haider, followed by Munira Nasreen Ansari with three papers. All highly cited papers were published in international journals and six papers were the result of research collaboration while four papers were written by a single author pattern. The detail of papers with citations has been given in Table-5.

Serial No.	Description of papers	Citations
1.	Munira Nasreen Ansari, Bushra Adeeb Zuberi. (2010). Use of Electronic Resources among Academics at the University of Karachi. <i>Library Philosophy and Practice (e-journal)</i> , 385.	109
2.	Syed Jalaluddin Haider, Khalid Mahmood. (2007). MPhil and PhD library and information science research in Pakistan: An evaluation. <i>Library Review</i> , 56(5), 407-417.	49
3.	Syed Jalaluddin Haider. (2004). Perception on coping with change: issues facing university libraries in Pakistan. <i>The Journal of Academic Librarianship</i> , 30(3), 229-236.	45
4.	Munira Nasreen Ansari. (2013). ICT skills proficiency of library professionals: A case study of universities in Karachi, Pakistan. <i>Chinese Librarianship: an</i> <i>International Electronic Journal</i> , 36, 72-84.	44
5.	Munira Nasreen Ansari, Nisar Ahmed Zuberi. (2010) Information seeking behaviour of media professionals in Karachi. <i>Malaysian Journal of Library & Information Science</i> , 15(2),71-84.	40
6.	Syed Jalaluddin Haider, Kanwal Ameen. (2007). Book Selection Strategies in University Libraries of Pakistan: an analysis. <i>Library Collection, Acquisition, and Technical Services</i> , 31(3-4): 208-219.	38
7.	Syed Jalaluddin Haider. (2003). Not financial issues alone: moving towards better resource sharing in Pakistan. <i>The Bottom Line</i> , 16(2), 55-64.	35
8.	Hira Tariq, Muhammad Waseem Zia. (2014). Use of electronic information resources by the students of faculty of science, university of Karachi. <i>International Journal of Digital Library Services</i> , 4(3), 80-91.	26
9.	Syed Jalaluddin Haider, Kanwal Ameen. (2007). Evolving paradigm and challenges of collection management (CM) in university libraries of Pakistan. <i>Collection Building</i> , 26(2), 54-58.	24
10.	Syed Jalaluddin Haider. (2007). The library scenario and management problems in Pakistan libraries. <i>Library Leadership & Management</i> , 21(4), 172-177.	17

Table-5, Detail of Top-10 Highly Cited Papers

Discussion

The first-ever postgraduate diploma course in LIS was started in Pakistan at UoK, similarly, this university is a pioneer in commencing a Master's degree course and a doctorate program in LIS. A paper examining the research productivity of Pakistan from 1981 to 2015 as reflected in the Web of Science database revealed that UoK emerged as 2nd most productive research-producing institution after Quaid-

e-Azam University (Iqbal et al. 2018). Another study indicated that UoK appeared as the most productive organization in LIS research from 1957 to 2013. (Siddique et al., 2021).

In the present study, out of total of 92 LIS papers produced by UOK from 2000 to 2021, 34 papers were published in the first nine years from 2000 to 2008 and the majority of papers (n=26) were contributed by Syed Jalaluddin Haider. He produced eleven papers with his two Ph.D. students Khalid Mahmood (n=9) and Kanwal Ameen (n=2) and wrote 15 papers as a single author. Kousar and Mahmood (2010) stated that 87.5% of the total work of Syed Jalaluddin Haider was single-authored. The other study stated that 94.5% of Anis Khurshid's work was also published as a single author (Mahmood & Rehman, 2010). Both these authors contributed significant LIS literature but due to the discontinuation of the formal LIS research program in UoK, they failed to develop a team of researchers.

We divided the collected papers into two phases, UoK showed improvement in the second phase from 2011 to 2021 (n=54; 59%) as compared to the first phase from 2000 to 2010 (n=38; 41%), but the papers published in the first phase got 76% (n=538) of the citations while the work published in the second phase acquired 24% (n=171) of citations. Slightly more than half of the citations (n=360; 50.91%) were gained by the work produced by Syed Jalaluddin Haider. Ahmed and Warraich (2013) pointed out that the University of the Punjab produced 82 papers on LIS from 2007 to 2012 and another study (Siddiqui et al., 2021) revealed that this university produced 320 papers on LIS from 2004 to 2018. The extraordinary research performance of the University of the Punjab was due to the commencement of the formal LIS research education program and the serious commitment and able guidance of the LIS faculty to promote research culture in the University.

It is encouraging to state that the scrutiny of authors by gender demonstrates that out of the total 52 distinct authors, the proportion of female authors (71%) has been found higher as compared to male authors (29%). These findings are in line with Khan and Hussain (2022) study that dealt with the research productivity of the LIS faculty of Pakistan as principal authors. The study exposed that during the period of 2016 to 2021, female authors contributed 44.44% of papers while the male authors shared 41.03% of papers.

It is encouraging that 63% of the UoK's papers were the result of research collaboration. The ratio of single-author papers has been significantly reduced from 63% in the first phase (2000 to 2010) to 18.51% in the second phase (2011-2021).

The assessment of publications sources exposed that 50% of the papers were published in two journals *PLISJ* and *Library Philosophy and Practice*. The papers published in international journals received a much higher ratio of citation as compared to local journals. The topological distribution of papers showed that *LIS Education* has been the favorite area of research but the other areas *Collection Development*, *Library Automation* and *Resource Sharing* got a better ratio of citations. The 10 highly cited papers got 60% of the citations and all these papers were published in international journals and nine papers were contributed by two authors, Syed Jalaluddin Haider (n=6) and Munira Nasreen Ansari (n=3).

There is a need to extend the research collaboration with the library practitioners and faculty of UoK. The findings of the study also showed that there is a lack of research collaboration with the other LIS department of Pakistan except for the work of Syed Jalaluddin Haider. Research collaboration with authors of developed countries can help to improve the standard of LIS research in the university. LIS faculty can collaborate on interdisciplinary topics with the faculty of other social sciences departments to extend the boundaries of knowledge. Siddiqui and Hussain (2019) revealed that out of 105 theses produced by MLIS students of UoK, 59% were written in the Urdu language. It is suggested that theses should be written in the English language and the supervisor should encourage and guide the student to

produce at least one quality paper from the thesis. Special sessions for the proficiency of academic English writing should be arranged for the LIS students/scholars.

The study is limited to the papers available online sources and published in local printed sources. There is a chance that some paper(s) has/have been missed. The self-citation of authors and journals has not been checked as it was not part of our research domain.

Conclusion

This study quantifies the growth and trends of LIS produced by the authors of UoK from 2000 to 2021. The findings of this paper support understanding the research trends and serves as a tool to strengthen the research activities. Research collaboration with other LIS departments can elevate productivity. Although, a positive development is shown in the second phase (2011-2021) but even then there is a dire need to accelerate the research activities, revisit the research policies and promote the research culture in the UoK.

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