

# A STUDY OF RESEARCH TRENDS IN LIBRARY AND INFORMATION SCIENCE IN THE UNIVERSITIES OF KHYBER PAKHTUNKHWA

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## Abstract

The study explores the research tendencies in the field of Library and Information Science (LIS) of the three universities in Khyber Pakhtunkhwa (KP), Pakistan during the period of 1983-2022. The data was collected through E-mail, Google scholar accounts, Whatsapp and personal contacts with the faculty members. The data of 392 publications (346 articles and 46 other publications) along with 1696 citations which these publications received was analyzed through bibliometric indicators.

The results showed that the highest research productivity year was 2021 with 67(17.82%) publications, the highest pattern of publication was collaborative research by two authors 113 (29.35%) and the length wise maximum papers 106(32.72%) were between 6-10 pages. Furthermore, the subject wise distribution of articles showed that the highest number of papers 62(17.92%) were on the subject "Universities Libraries". The category wise list of journals, such as w, x, y, z and impact factors revealed that maximum number 102 of articles were published in W category journals and some 37 articles in impact factor journals the rest were published in X, Y and Z categories of journals.

The study concludes by highlighting the need for more collaboration among researchers in libraries and universities in KP to further enhance the research output in the field of LIS. Additionally, it recommends the establishment of a comprehensive LIS research agenda for universities in KP to guide and promote research in the field of LIS. The current research provides valuable insights for researchers, library professionals, and policymakers who are interested in promoting and enhancing LIS research in universities of KP, Pakistan.

**Keywords:** Library and Information Science (LIS) Research, Bibliometric Analysis of LIS Literature, Research Productivity in LIS, LIS Faculty Members Research Output.

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### **Background of the study**

There is an increased awareness in the field of Library and Information Science (LIS) research community to study the trends of research in LIS. Analyzing research trends is not a new phenomenon as Anwar (1982) and Jarvelin and Vakkari (1990) have conducted such studies several decades back. The low research productivity in the first fifty years of Pakistan as noticed by Asghar in (1992) was due to the factors like; the lack of suitable training, lack of leadership, inaccessibility to related literature, no encouragement, no financial support, and lack of individual interest among the LIS researchers. Similarly, Rizvi (1987) clearly stated that the main barrier in producing research was the scarcity of skilled professionals in library research. Mahmood (1996) lay emphasis on refresher courses for working library professionals to teach them how to study new trends of research and publish the findings in journals.

In the past there was less need of research in LIS but, with the passage of time new departments established in the country and new LIS programs of higher studies began at university level and the emergence of proactive discipline along with the changes occurred in social statuses of LIS professionals a need was felt for more research in the LIS field. The main reason that has attributed in the evolution of LIS subject into an interdisciplinary nature of aggregate subject was the annexation of Information Science, Management Science, Computer Science, and Communication Technology in the field of LIS. Moreover, society develops due to research. Similarly, research also develops a discipline with the ability to advance the knowledge; and the study of research trends or research productivity enables the researchers to assess the progress and growth of any discipline, highlight the collaboration patterns among authors, and the attractive research areas of that discipline.

Research in LIS contributes to problem resolving and policymaking in libraries and information centers. It improves management and facility of information services and generates new knowledge for the continued development of LIS as a profession. Academic librarians also conducted research to encounter promotion and contract burdens of their institutions (Sife & Lwoga, 2014). Other studies such as Milojevic et al., (2011) studied that the consolidation of technology with the subject of LIS has changed the intellectual structure of the LIS discipline. There has also been a clear tendency wherein the out-of-date LIS topics vanished, and new topics and areas of research appeared, and most of these developing topics are interlinked with technology.

The mergers of other subjects into the core of LIS as a subject make it convincing and exciting to study the progress and changes in the subject of LIS over the years. There are a good

number of research papers that investigated the shifts in the LIS research trends at the international level. The bibliometric approach help to understand the investigation of current trends of research in LIS, analyse the research efficiency of targeted period, and targeted people progress of published literature.

### **Objectives**

The main objective of this study is to investigate the recent research trends in the field of LIS in the Universities of KP, during the period 1983 to 2022. Moreover, the specific objectives set for the study are:

1. To determine the year wise productivity of LIS faculty members (Entire Publications).
2. To determine the authorship pattern of their publications output (articles only).
3. To determine size of publications in terms of Article's pages.
4. To examine the subject-wise distribution of articles publications.
5. To know the category wise list of journals, (Such as w, x, y, z & impact factors).
6. To analyze the author wise research (Articles) productivity.
7. To know the university-wise research (Theses) productivity of LIS faculty.
8. To analyze the theses supervision details of LIS faculty in each University.
9. To analyze miscellaneous research contributions (Other than Articles) of LIS faculty.

### **Limitations and Delimitations**

One limitation might be the inaccessibility to the research publications of those faculty members who retired before the year 2000. Secondly, the Higher Education Commission (HEC) has introduced its Higher Education Commission Journal Recognition System (HJRS) recently to know about the category of a journal so, there might be some journals which are not included in the HEC database and make it difficult even impossible to determine the category of un-included journals. Other limitations may include the unavailability of pagination information and organizational affiliation of authors.

The study is delimited to the research contributions of the LIS academicians (faculty members) of the three Universities. It does not include the research productivity of the LIS professionals (faculty members) who conducted research in other disciplines. In addition, it did not cover the research output of other library professionals

working as librarians either in the departments or central libraries of these universities.

### **Literature review**

There are many research studies related to this area. Some of the relevant studies are reviewed for better understanding the subject. Like, Shah, et al., (2021) assessed research trends among the faculty members in Khyber Pakhtunkhwa Pakistan from 2012-2019. It revealed that there were ten faculty members having PhD degrees at KKKUK. The total author productivity was 179 and the highest contributions were of Dr, Saeed Ullah Jan i.e. 41 publications whereas, the lowest was Dr. M Inam-Ul-Haq having 3 publications. Among the departments the research productivity of “Management Sciences” was highest having 63 contributions followed by LIS department with 62 publications and got second rank. Latif and Haq (2020) assessed the research output of the faculty in Shifa Tameer-e-Millat University from 2012 to 2018. Their findings revealed that minimum three publications were produced in year 2012 and maximum sixty six publications were made in 2018. Moreover, 66% of their publications were in the shape of original research articles. Four authors were the most popular authorship pattern among the STMU staff.

Haq and Satti (2021) did a survey to examine the documents produced by authors in the field of LIS during the years 2019. The authors, including faculty, research scholar, practitioners and non-resident Pakistani LIS professionals produced 154 articles from first January to thirty first December 2019. They came up with the results that majority of the publications were produced by faculty members and published in category W, X and impact factor journals. It was also found that most of the research studies were accomplished in co-authorship. Shukla, et. al., (2020) completed a study in India and assessed the research trend in LIS during the last four decade (1980-2019). Authors found a total of 4303 articles were contributed by Indian LIS professionals out of total 426929 global contributions. The Indian LIS publications got 17209 citations. However, most of the world output belonged to four quartiles lowest in order of quality. The qualitatively analyzed Indian literature was highly seen in the higher citation impact for Indian literatures were 1.25 compared to the global figure 0.991.

Hussain, et. al., (2019) conducted bibliometric analysis study in Sarhad University of Science and Technology, Peshawar to examine the research output at different levels of LIS discipline, including undergraduate, graduate and post- graduate levels from 2014-2017. Findings revealed that Library resources and services were the most attractive area of research during the period of the

study. The most prolific author among researchers was Dr. Saeed Ullah Jan as well as the most productive research supervisor. In 2020, Dora and Kumar analyzed research papers which were peer-reviewed in the field of LIS published on national and international level. The research publications were divided into three categories based on geographic scope. i.e. country specific research which were 39 papers in LIS, 3 papers were in regional category focused on a group of countries like the Gulf a, Africa and Australia and 13 papers were classified as international research papers brought in a global perspective.

Haq (2015) measured the research productivity of Pakistani authors for the literature published in *Library Philosophy and Practice* (E-journal) during 2008 till 2017. There were a total of 93 articles published in the targeted time. The higher productivity was in the year 2013 i.e. 21 and in 2010 i.e. 13 papers. The subject wise distribution is information seeking behavior/ information needs was on the top with 28 (30.10%) and library management was 15 (16.12%) on the second. So, for the authorship pattern showed that the majority of papers 46 were written by two authors and less papers 3 were produced by more than three authors. The gender-based analysis revealed that males produced more 53 papers than females 40. Hodonu-Wusu and Lazarus (2018) summarized a report on LIS covering literature from 1980 to 2017. On a sample of 500 the most cited publications, bibliometric analysis showed that most mentioned articles, were from the United States, England, and China. Similarly, the findings of this study can help academics better pinpoint potential hotspots in LIS-related fields in the future.

Ismail, Ahmad and Subpouto (2015) collected data about research papers from 1988 to 2009 in Khyber Pakhtunkhwa. The data was collected by consulting the PLA directory of Khyber Pakhtunkhwa librarians. The total number of papers published in the decided time period was 98. From 1983 to 1991 most of the papers were published by the LIS faculty i.e. 71 (72.44%) out of 98. The total theses conducted by the LIS students were 65. The maximum theses submitted in 1983 to 1991 were 25 (38.46%).

Moreover, a study of *Sarhad Journal of Agriculture* examined 2761 articles published in about 25 volumes of SJA up to 2009 by using bibliometric indicators such as authorship patterns, topic covered, and year-wise distribution of articles, number of citations used, and the number of pages per article. Researchers created a sheet in MS-Access for data collection. The author productivity based on the counting all authors contributing to an article; the maximum number of authors contributing to an article is seven (Ahmad & Anwar, 2013). In another study Ahmad, Jan and Ahmad (2013) analyzed the journal literature of *Law and Society*

covering the period 2000 to 2009. The finding disclosed that a large group of authors (n=78, 62.9%) contributed one article each either singly or in collaboration. Whereas, the maximum number of articles produced by single author were 20 out of the 178 publications and 109 (61.24%) articles were the result of individual efforts.

Warriach and Ahmad (2011) conducted a bibliometrics analysis of the journal published by the Department of Library and Information Science, University of Punjab Lahore. In 11 issues of Pakistan Journal of Library and Information Science a total of 111 publications were recorded. The study found that maximum authors 54(48.65%) were affiliated with University of the Punjab followed by University of Karachi with 8 papers. It was also found that besides Pakistani researchers there were other contributed to published articles in PJJIS from about 12 foreign countries during the study period. Being a Pakistani origin journal, greater part of the contributors 93 (72.09%) were affiliated with Pakistani institutions followed by India 9 (6.97%).

Jabeen, Yun and Rafiq (2015) evaluated the recent LIS trends and growth of LIS publications. Through a survey 40 LIS core journals were chosen mostly from the Journal Citation Reports 2010 database. Bibliometric Analysis Software for visualization and mapping was used to draw a picture of the expansion and trends in LIS publications. From 2003 to 2012, a total of 18,371 research articles were produced. In 2009, a strong growth rate of 11.37% was noticed. In addition, an average incidence of 38.56%, the rise in self-citation was also discovered. The "article" was the most used publishing type among LIS researchers. The China has made a remarkable contribution in terms of joint publications in the field of LIS.

Sheikh, et al. (2021) investigated the emerging COVID-19 research trends and future implications in LIS field. They mentioned that for the people around the globe, COVID-19 epidemic was a nightmare. It significantly affected all facets of human life. Therefore, an extensive study was done to evaluate and address this global pandemic. It showed a considerable rise in LIS papers on COVID-19 in 2020. The research productivity analysis in this study was a brief review of the well-known authors, sources, institutions, and nations that have published on COVID-19 in the LIS discipline.

Lee, Kang, and Lee (2019) conducted a comparative analysis of LIS field and other social science fields. The research was conducted with an aim to examine the author keyword networks of peer-reviewed journal publications to understand the trends in digital divide research in the LIS and other social scientific domains. Researchers used the KCI database to collect the authors' keywords. The main points of study were: 1) Information services provided by public libraries in the LIS disciplines

for information-disadvantaged groups were the focus of the digital divide investigations. Ullah and Ameen (2018) determined the methodologies and methods applied in LIS research. As reliable and valid research requires the application of appropriate technique therefore, the quantitative systematic review was utilized to compile an extensive list of research methodologies used in the field of library and information science. In order to find pertinent material, exhaustive search methods were used. However, it was found that more than half of the authors in this corpus of work did not create or use taxonomy of approaches.

Gautam and Mishra (2018) studied the varying scholarly developments of LIS research in Asia. The findings were that researchers, academics, and government officials can all benefit greatly from Scientometric studies when it comes to allocating funds for development, formulating policies, and making decisions. Numerous Scientometrics studies are being conducted to evaluate the volume of publications produced by researchers in various fields and to identify their inter-disciplinarily and collaboration. In nutshell, the analysis of LIS research trend through such studies may improve the policy makers and researchers to take right decisions to move the research activities in right direction and in appropriate manner.

Siddique, et al. (2020) analyzed LIS research in Pakistan through bibliometric lens covering period from 1957–2018 using the four important databases including Scopus, Web of Science, Library and Information Science Abstracts, and Library, Information Science and Technology Abstracts. They found that Most prolific organization in LIS research production was University of the Punjab, Lahore (381 Publications) followed by University of Karachi with 175 publications and University of Peshawar had Low number of Publication in the field of LIS i.e 47. The year wise distribution of publications by Pakistani researchers from 1957 to 2018 showed a positive upward trend. They also added that Teaching staff were the most productive source of LIS literature in Pakistan. Most covered subject area was Academic Libraries.

Hussain and Jan (2020) conducted a bibliometric review of the articles published in the Journal of Strategic Studies. He reported that a total of 317 papers were published in the JSS from 2008-2018 with a mean of 7.2 papers per issue. He also mentioned that in authorship pattern, a single author contribution was highest with 73.74% of the total articles. Similarly, Hussain, Sadiq, and Zeeshan (2022) studied the research out published in the Journal of Education for Library and Information Science, published during 2015-2021. They found that a total of 230 articles have been published in the study period contributed by 445 authors. The average publication of

articles per issue was 5.2. Single authored papers were 131 (57%) and most prolific authors were from America.

### Methodology

With the help of bibliometric analysis technique, this study looked at the research trends in the field of Library and Information Science at the Universities of Khyber Pakhtunkhwa. For this purpose, all faculty members' publications; articles, books, books edited, books reviews, thesis and thesis supervision from 1983 to 2022 have been analyzed. The subjects of the articles and thesis were determined with the help of keyword given in their abstracts; in case of vague subject DDC (Dewey Decimal Classification Scheme) was consulted to assign appropriate keyword. The last page of the article whether full or not was considered as a full page. The data was collected through E-mail, Google scholar accounts, Whatsapp and personal contacts with the faculty members. That's how the research publications and other miscellaneous research contributions of library and information science professionals (Faculty Members) were collected and analyzed. Ms-Excel was mainly used to analyzed the data.

### Major Findings

#### *Year-wise Research Productivity of LIS Faculty Members*

The year wise distribution of entire 392 publications and 1696 citations, which these publications received, from 1983 to 2022 are presented in Table 1. Out of 392 publications 346 were articles and 46 were other publications the details of which are provided in last of the findings. The years of highest productivity were 2021 (67, 17.82%), 2020 (51, 13.56%), and 2017 (31, 8.24%). On the other hand, in the years 1986, 1991, 1998, 2001, and 2002, there was no publications at all. The low productivity years were 1983 (0.27%) and 1985 (0.27%). The years in which the publications were highly cited were 2015 (248), 2017 (238), and 2014 (175) citations. But, since 1983 till 2002 there was no citation and again in 2005 no publication was cited. It means the faculty research got maximum visibility in the year 2015 as their publications were cited 248 times.

*Table 1, Year-Wise Productivity of LIS Faculty Members (N=392= Articles+Misc Publications)*

Years	No of Publications	Percentage	Citations
1983	1	0.27	0
1984	3	0.80	0
1985	2	0.51	0
1986	0	0.00	0



1987	3	0.76	0
1988	3	0.76	0
1989	3	0.76	0
1990	8	2.04	0
1991	0	0.00	0
1992	2	0.51	0
1993	6	1.53	0
1994	4	1.02	0
1995	3	0.76	0
1996	4	1.02	0
1997	3	0.76	0
1998	1	0.27	0
1999	1	0.27	0
2000	1	0.27	0
2001	0	0.00	0
2002	0	0.00	0
2003	7	1.86	22
2004	4	1.06	7
2005	4	1.06	0
2006	7	1.86	34
2007	2	0.53	0
2008	1	0.27	0
2009	3	0.80	3
2010	2	0.53	2
2011	9	2.39	132
2012	9	2.39	16
2013	14	3.72	101
2014	21	5.59	175
2015	23	6.12	248
2016	25	6.65	213
2017	31	8.24	238
2018	24	6.38	156
2019	23	6.12	111
2020	51	13.56	166

2021	67	17.82	70
2022	17	4.52	2
<b>Total</b>	<b>392</b>	<b>100.00</b>	<b>1696</b>

### ***Authorship Pattern of Articles Publications***

In Table 2 data regarding the authorship pattern of publications during the period was displayed. Facts revealed that out of 346 contributions, maximum number 103 (29.77%) of contributions have been made by two authors, followed by three authors contributions which are 90 (26.01%). The single authored publications are 81 (23.41%), four authored papers 54 (15.61%), five authored 11 (3.18%) and six authors 5 (1.45%) respectively while more than six authors were only 2 (0.52%).

The analysis points out that major trend in authorship pattern of publications are two and three authors' collaborative research publishing.

*Table 2, Authorship Pattern of Publications (N=346)*

<b>No of Authors</b>	<b>No of publications</b>	<b>Percentage</b>
One Author	81	23.41
Two Authors	103	29.77
Three Authors	90	26.01
Four Authors	54	15.61
Five Authors	11	3.18
Six Authors	5	1.45
More than six Authors	2	0.57
Total	346	100.00

### ***Size of Publications in Terms of Pages***

The details of length or size of papers in terms of pages are presented in the Table 3. It states that articles consisted of 1-5 pages were 21 (6.48%). The data further illustrates that the articles having 6-10 pages were maximum in number 106(32.72%), the articles having 11-15 pages were ranked second with 101(31.17%). There were only three articles having 31-35 pages 0.93%. The longest articles which were above 36 pages in length were only 2 (0.62%). It showed that maximum number of articles 207 were between 6-15 pages range. The trend of writing long articles having more than 20 pages was not common among the LIS teaching faculty in the universities.

*Table 3, Size of Publications in Term of Pages (N=324+22=346)*

Page Range	Publications	Percentage
1-5	21	6.48
6-10	106	32.72
11-15	101	31.17
16-20	60	18.52
21-25	22	6.79
26-30	9	2.78
31-35	3	0.93
36 & Above	2	0.62
<b>Total</b>	<b>324</b>	<b>100</b>

- The pagination of 22 articles was not known.

#### **Subject-wise Distribution of Publications**

The data in Table 4 illustrates the subject areas of research publications. It expressed that the highest number of publications i.e 62, (17.92%) were on the subject of University Libraries, followed by the subjects which have more than 30 publications. Among these subjects one was Bibliometric Analysis with 52(15.03%), other was Library Education with 38(10.98%) and E-Information/Resources there with 35(10.12%) articles. On the other hand, subject area with the lowest number of publications were Library Professionals (2, 0.58%), History of Libraries (3, 0.87%), and Special Libraries 6, (1.73%). It shows the focus of researchers in KP universities is on Bibliometric analysis and University libraries more than the rest of areas in LIS.

*Table 4, Subject Wise Distribution of Publications (N=346)*

Rank	Area of Research	Publications	Percentage
1	University Libraries	62	17.92
2	Bibliometric Analysis	52	15.03
3	Library Education	38	10.98
4	E-Information/Resources	35	10.12
5	Academic Librarians	28	8.09
6	Public and National Libraries	20	5.78
7	Classification/Cataloguing	16	4.62
8	Resource Sharing	16	4.62

9	Information literacy	14	4.05
10	Library Automation	13	3.76
11	Library Management	11	3.18
12	Web 2.0 Technology	11	3.18
13	College/School Libraries	10	2.89
14	Medical Libraries	9	2.60
15	Special Libraries	6	1.73
16	History of Libraries	3	0.87
17	Library Professionals	2	0.58
	<b>Total</b>	<b>346</b>	<b>100</b>

#### *Category-wise List of Journals Chosen for Publications*

The Table 5 provides information about the distribution of articles published in different categories of journals. There are six categories listed in the table including, W, X, Y, and Z categories, along with Impact Factors and Unknown category. The total number of articles included in the table is 346. The W category is the most significant category, comprising 102 articles, which accounts for 29.48% of the total articles. The X category has 18 articles, which account for 5.20% of the total articles. Similarly, the Y category has 24 articles, accounting for 6.94% of the total articles, and the Z category has 21 articles, accounting for 6.07% of the total articles.

The Impact Factors category has 37 articles, accounting for 10.69% of the total articles. The Impact Factor is a measure of the average number of citations an article in a particular journal receives over a specified period. Journals with high impact factors are considered to be more prestigious and influential in their respective fields. The Unknown category has the highest number of articles, with 144 articles, accounting for 41.62% of the total articles. This category represents the articles whose journal category is not known or classified. The reasons for that might be the fact that this journal categorization is recent phenomenon i.e a product of the last decade.

The below analysis is very satisfactory in the sense that majority of articles of the faculty members are in the highest category of journals and there were less articles in the lowest i.e. Z category.

*Table 5, Category-wise List of Journals, Such as (W, X, Y, Z & Impact Factors) (N=346)*

S.No	Category of Journal	No of Articles	Percentage
1	W-Category	102	29.48
2	X-Category	18	5.20

3	Y-Category	24	6.94
4	Z-Category	21	6.07
5	Impact Factors	37	10.69
6	Unknown	144	41.62
<b>Total</b>		<b>346</b>	<b>100.00</b>

#### **Author-wise Research Productivity**

Table 6 presents the author wise research productivity. The data shows that Dr. Saeed Ullah Jan has the highest number of publications 79 among all authors, which was 22.83% of the total publications followed by Dr. Asad Khan with 52 publications, which was 15.03% of the total publications 346. Similarly, Dr. Sajjad Ahmad has 44 publications, which was 12.72% of the total publications followed by Dr. Ghalib Khan with 35 publications and Dr. Muhammad Ismail with 33 publications respectively. The remaining authors have low research productivity. Among those there were some who have produced a few publications for instance, Mr. Hamid Rehman has produced 13(3.76%) publications, Mr. Syed Liaqat Ali and Mr. Izhar Muhammad have produced (7, 2.02) publications and Dr. Rahim Jan has only produced 4(1.2%) publications. Mr. Muhammad Shahab and Mr. Syed Arif Ali Shah have produced only 3(0.87%) publications each.

*Table 6 Author-wise Research Productivity (N=346)*

<b>S.No</b>	<b>Name of Author</b>	<b>Publications</b>	<b>Percentage</b>
1	Dr. Saeed Ullah Jan	79	22.83
2	Dr. Asad Khan	52	15.03
3	Dr. Sajjad Ahmad	44	12.72
4	Dr. Ghalib Khan	35	10.12
5	Dr. Muhammad Ismail	33	9.54
6	Mr. Mohammad Hussain	24	6.94
7	Mr. Fauz Dar Khan	19	5.49
8	Mr. Muhammad Ibrahim	17	4.91
9	Mr. Hamid Rehman	13	3.76
10	Mr. Syed Liaqat Ali	7	2.02
11	Mr. Izhar Muhammad	7	2.02
12	Mr. Zakria	5	1.45

13	Dr. Rahim Jan	4	1.2
14	Mr. Muhammad Shahab	3	0.87
15	Mr. Syed Arif Ali Shah	3	0.87
16	Dr-Ata-Ur-Rehman	1	0.29
<b>Total</b>		<b>346</b>	<b>100.00</b>

### University-wise research Productivity of LIS by Faculty On the Basis of Thesis Completion

The data in Table 7 reveals the research output of Library and Information Science (LIS) faculty (On the basis of thesis completion) by institutional affiliation i.e. University of Peshawar, Khushal Khan Khattak University Karak, and Sarhad University of Science & Technology. The details show that University of Peshawar has no research output for BLIS/BS-LIS level but, the university has produced 64 researches at MLIS level and 13 researches at M.Phil/MS-LIS making a total of 77 research products. This represents 40.10% of the total research output among three universities.

While Khushal Khan Khattak University Karak has 39 research outputs for BLIS/BS-LIS, no research at MLIS and 18 research outputs at M.Phil/MS-LIS level, making a total of 57 research outputs. It represents 29.69% of the total research output for the three universities. Sarhad University of Science & Technology has 1 research output for BLIS/BS-LIS, 33 research outputs at MLIS, and 24 research outputs at M.Phil/MS-LIS, making a total of 58 research outputs. This represents 30.21% of the total research output for the three universities. It means that the research productivity at the University of Peshawar was higher than the rest of the two universities. But, the research productivity of the rest two universities' KKKU and SUIT is not too bad.

Table 7, University-wise Research Productivity of LIS Faculty (N=192-Theses)

Name of University	BLIS/BS-LIS	MLIS	M.Phil/MS-LIS	Total	Percentage
University of Peshawar	0	64	13	77	40.10
Khushal Khan Khattak University Karak (KKKUK)	39	0	18	57	29.69
Sarhad University of	1	33	24	58	30.21

Science & Technology (SUIT)					
<b>Total</b>	<b>40</b>	<b>97</b>	<b>55</b>	<b>192</b>	<b>100</b>

#### ***University-wise Thesis Supervision by the Faculty Members***

The analysis of data in Table 8 shows the information regarding the theses supervision by the faculty at different levels of education. Among the faculty members Dr. Saeed Ullah Jan supervised the highest number of thesis i.e. 70. The detail of supervision shows that he supervised 24 BLIS/BS-LIS researches, 31 MLIS and 15 M.Phil/MS LIS, making 36.46% of the total students supervised, followed by Mr. Syed Liaqat Ali who has supervised 19 students, which makes 9.90% of the total. Similarly, Dr. Sajjad Ahmad and Dr. Ghalib Khan both have supervised equal number of thesis i.e. 14 (7.29%) each, whereas, Dr. M. Ishfaq Ahmad and Mr. Hamid Rehman have supervised 12 (6.25%) students each. The supervisor who supervised the lowest percentage 0.52% of students was Mr. Khush Muhammad.

*Table 8, Thesis Supervision of Library and Information Science (N=192 - Theses)*

<b>Supervised By</b>	<b>BLIS/BS-LIS</b>	<b>MLIS</b>	<b>M.Phil/MS LIS</b>	<b>Total</b>	<b>Percentage</b>
Dr. Saeed Ullah Jan	1 * 23	31	7 * 8	70	36.46
Dr. M.Ishfaq Ahmad	0	2	10	12	6.25
Dr. Atta urRehman	0	0	4	4	2.08
Dr. Amjid Khan	0	0	2	2	1.04
Dr. MidrarUllah	0	0	1	1	0.52
Dr. Ghalib Khan	9	0	5	14	7.29
Dr. Mohammad Hussain	7	0	5	12	6.25
Fida Muhammad	0	10	0	10	5.21
A.U Khan	0	3	0	3	1.56
Dr. Asad Khan	0	3	4	7	3.65
Dr. Sajjad Ahmad	0	10	4	14	7.29
Dr. Muhammad Ismail	0	4	4	8	4.17
Dr. Fauz Dar	0	3	0	3	1.56

Khan					
Mr. Hamid Rehman	0	12	0	12	6.25
Mr. Syed Liaqat Ali	0	18	1	19	9.90
Mr. Khush Muhammad	0	1	0	1	0.52
<b>Total</b>	<b>40</b>	<b>97</b>	<b>54</b>	<b>192</b>	<b>100.00</b>

### ***Miscellaneous research contributions or miscellaneous publication of LIS research***

The record of miscellaneous research in Table 9 revealed that out of total 46 miscellaneous research contributions 5 (10.87%) books, 3 (6.52%) edited books, 7 (15.22%) book reviews, 8 (17.39%) theses of faculty members, 15 (32.61%) unpublished articles, and 8 (17.39%) were transliteration articles.

*Table 9, Miscellaneous Research Contributions of LIS Faculty Members (N=46)*

S.No	Miscellaneous Publications	No of Materials	Percentage
1	Books	5	10.87
2	Books Edited	3	6.52
3	Books Reviews	7	15.22
4	Theses	8	17.39
5	Unpublished Articles	15	32.61
6	Transliteration Articles	8	17.39
<b>Total</b>		<b>46</b>	<b>100.00</b>

### **Discussions and Conclusions**

On the basis of the findings of this study it is revealed that research at BLIS/BS-LIS/ and MS/M.Phil levels is growing in the Universities of KP. A few decades back the researchers' ratio of publications was at lowest level however, in the year 2021 it went high at BLIS/BS-LIS and MS/ M.Phil level. Similarly, the most publications produced by authors were Dr. Saeed Ullah Jan, Dr. Asad Khan and Dr Sajjad Ahmad among the faculty members. This supports the findings of Ismail, Ahmad and Subpouto (2015) that collected data about the published research papers from 1988 to 2009 in Khyber Pakhtunkhwa. They found the in their study most of the papers were published by the faculty members.



Findings also showed that the maximum papers in the category of pages per-article were research articles having 6-10 pages. There were only 2 articles of just 36 and above pages length being the longest. So for the subject areas of research publications are concerned the subject "University Libraries" was on the top with the highest number of publications i.e. 62(17.92%), Bibliometric Analysis 52(15.03%) and E-Information/Resources 35(10.12%). This finding is in line with the findings of Siddique, et al. (2020). They reported that Academic libraries were the most attractive area of research for Pakistani LIS researchers. It means that most articles have a range between 6-10 pages and there were few articles with maximum pages 36 and above. The study also found that there was a growing interest in research collaboration and that researchers were increasingly using interdisciplinary approaches to address complex issues in LIS domain. This also confirms the findings of other studies such as Shah, et.al, (2021) and Siddique, et al. (2020) where they reported the growth in collaborative research as well as overall growth in LIS Publications. Moreover, the majority of research articles were published in W category a journal which is a great achievement of researchers in the LIS field in the three universities, whereas the Impact Factors articles were only 37 in number. But, at the same time the point to ponder upon was that the highest number of articles i.e. 144 (41.62%) of the total articles fall into category which is not known or classified.

In addition, the author wise research productivity showed that the first top three researchers among the faculty members were Dr. Saeed Ullah Jan possessed highest number of publications 79 followed by Dr. Asad Khan 52 publications and Dr. Sajjad Ahmad having 44 publications. The remaining authors have low research productivity. Similarly, the research output of each University based on the completion of thesis showed that University of Peshawar stood first with 77 researches making 40.10% of the total research output among three universities. The second position was got by Khushal Khan Khattak University Karak in thesis output with 57 research products while, Sarhad University of Science and Technology has produced 58 research publications. Furthermore, the thesis supervision detail highlighted that among the total faculty members Dr. Saeed Ullah Jan has supervised the maximum number of thesis i.e. 70 followed by Mr. Syed Liaqat Ali who has supervised 19 students. Similarly, Dr. Sajjad Ahmad and Dr. Ghalib Khan both were equal in supervising the students as each of them supervised 14 students. The lowest percentage 0.52% of students was under the supervision of Mr. Khush Muhammad i.e. only one student. Apart from theses and articles there were some miscellaneous research contributions of the faculty members including 5 books, 3 edited

books, 7 book reviews, 8 theses of faculty members, 15 unpublished articles and 8 transliteration articles. The miscellaneous publications is a positive sign of faculty members involvement in the producing the literature in the field of LIS.

Finally it can be deduced that the rate of publication in the field of LIS research in Khyber Pakhtunkhwa is growing. The increasing usage of technology, interdisciplinary approaches, and collaboration in research highlight the importance of keeping up with current trends and developments in the field of LIS. The study concludes by emphasizing the need for more collaboration among researchers, libraries and universities in KP to further enhance the research output in LIS. Moreover, the study endorses the establishment of a comprehensive LIS research agenda for universities in KP to guide and promote research in this field and BS-LIS, Master LIS and M.Phil-LIS. This study provides valuable comprehensions for researchers, librarians, and policymakers who are concerned in promoting and improving LIS research in universities of KP.

### **Recommendations**

The research was concluded with the following recommendations:

1. Encouragement of faculty with incentives to publish their research in journals of international repute which might get maximum citations in response.
2. To reward the prolific researchers that may be helpful in making a healthy competitive environment among researchers and promote a better research culture in the universities of Khyber Pakhtunkhwa.
3. The universities should allocate grants along with other facilities like, Computer labs, libraries, Internet and other related services for involving majority of the faculty members in research activities.
4. The researchers should be proper trainings on different aspects of conducting research of high standard that might be publishable in the high category journals for example; "How to select Topic", "Literature Review", "Methodology", "Data Analysis" and "Report Writing", etc.
5. Finally, it is recommended to assess the status of LIS literature so that the future research trends could be identified and gaps in the available literature if any could be filled in time by the researchers.

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