

Subject Trends in Library and Information Science: An Analysis of MPhil Theses

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Abstract

The study examines trends in the subject of Library and Information Science by studying the LIS MPhil theses written in Pakistan. It analyzes the theme, research settings, tools and technologies to comprehend the changing landscape of research. Content analysis is adopted to identify subject themes. The research relies on thesis metadata retrieved at university repositories and justified using relevant scholarly literature. Titles of the theses were analyzed and themes were developed manually and through the use of qualitative analysis software. Thematic analysis reveals that conventional directions (academic libraries, information services, and user studies) continue to be dominant, and a significant shift to user-centered and technology-based research is evident. New directions are information literacy, electronic space, and interdisciplinary issues like health information. Technological trends focus on the increased significance of social media and digital libraries and pay minimum attention to more advanced technologies, like artificial intelligence. The disparities in the region are still high; researchers conducted research in large provinces and cities, which points to the lack of research activity towards less populated and less advanced regions and cities. The paper shows that the research in LIS from Pakistan is gradually shifting to modernization, and digital orientation.

Keywords: Library and Information Science, Bibliometric Analysis, MPhil Theses, Research Trends, Subject Analysis, Information Literacy, Digital Libraries, Social Media, Artificial Intelligence, Knowledge Management, Research Productivity, Pakistan

1. Background of study

The development of Library and Information Science (LIS) in Pakistan has followed a rather long and stable academic and professional path. Formal LIS education in the country dates back

to 1915 when a training course was introduced. Currently, LIS is being taught at various levels in number of universities, which has led to the creation of a growing literature (Haider & Mahmood, 2007). LIS has experienced significant subject changes in the recent decades, and it is now in a more interdisciplinary area that includes digital libraries, information behavior, knowledge management, and new technologies including artificial intelligence and big data (Oltmann, 2021; Bawden and Robinson, 2020). This has been motivated by the rapid change in information and communication technologies (ICTs), spread of digital content, and the growing need to provide equal access to information. This means that LIS studies have moved beyond being collection-based to being user-based, system-based, and technology-based with increased focus on innovation, ethics, and social effects (Li Liew, 2009).

In this changing international environment, the subject trends analysis is a vital methodology of analyzing the growth and future course. Academic publications like MPhil theses give good information on new areas of research, methodological choices, and thematic priorities in the field (Fell, 2019; Madhusudhan, 2012). The theme of LIS research has been shown to shift internationally from the 1970s to 2000s as digital information systems, metadata, and information retrieval became more important, and more recently, to data science and digital humanities and information services powered by AI (Xu & Chen, 2019, p. 1141; Dutta, 2015). These studies emphasize dynamism and adaptability of LIS as it adapts to technological, social and cultural changes.

In Pakistan, systematic studies of the trends in LIS research are however limited. Although studies bibliometrics analysis of journal articles and conference papers are conducted but postgraduate research has received comparatively little focus, especially at the MPhil level (Anwar and Altaf, 2019; Ahmed et al., 2021). This is a major gap because MPhil theses are a huge part of the academic research in Pakistani LIS programs and are frequently based on the research interests of the new scholars as well as institutional interests. According to Sheikh, Malik, and Mahmood (2022), the absence of thematic studies of LIS research in Pakistan hinders the capacity to evaluate the conformity of the discipline to the world trends.

The process of analyzing subject trends in MPhil theses is of particular significance to the Pakistani context due to a number of reasons. To begin with, it allows identifying the most prevalent areas of research that define the field nationally. According to the existing research, the Pakistani LIS research has conventionally been concentrated on such topics as library management, information literacy, user studies, and development of digital libraries (Mahmood, 2018). Although they are still significant, they tend to indicate a more practice-based mindset, with little activity in more advanced or recent fields like data science, artificial intelligence, and digital curation. This inconsistency suggests that there is a disconnect between local research activities and international LIS trends.

Second, the mapping of trends of subjects assists in establishing unexplored or unexploited areas of the discipline. Other newer global issues like AI ethics, algorithmic bias, research data management and open science are emerging in international LIS research and are relatively underrepresented in Pakistan. It is imperative to fill these gaps to ensure that LIS research in the country is also relevant and competitive in a more digital and data-driven informational environment (Ameen, 2018). Moreover, the given analysis can be taken as the basis of strategic research planning as it will help to see in which areas more scholarly attention and investment should be provided.

Third, the trend analysis of subjects can be of much importance to curriculum development and educational planning. Postgraduate studies are not only indicative of personal student interests but they also show the contribution of faculty knowledge, institutional provisions and curriculum framework (Khan and Bhatti, 2017). The thematic distribution of MPhil theses allows assessing by educators and policymakers whether the existing LIS curricula equip students with the knowledge necessary to meet the requirements of the modern challenges in the sphere of information management, digital transformation, and knowledge organization. It is important to align academic programs with local requirements and global trends to come up with information professionals who are competent enough to operate in complex information ecosystems.

Additionally, subject trend analysis can lead to evidence based policymaking and professional growth in the LIS field. Knowledge of the research interests of postgraduate students helps to see how academic institutions are addressing the needs of society, including enhancing access to information, ensuring digital literacy, and helping to sustain knowledge-based economies. Such analysis may be applied in developing nations such as Pakistan, where LIS remains an emerging research field, to inform national policies on how to empower library services, develop research capacity, and become innovative (Ameen, 2018).

Although the approach is acknowledged to be significant, there is no research done in Pakistan that has thoroughly covered the topic of distribution of LIS MPhil theses across time. The majority of existing researches is small-scale or concentrates more on publications than theses. Such absence of systematic examination prevents the comprehensive understanding of the evolution of the discipline and makes it hard to define the long-term tendencies and new themes. Thus, it is evident that an extensive study that traces the trends of subject matter of MPhil theses and assesses its compliance with the international LIS research is required. To address this gap, the current study will seek to explore subject trends in LIS MPhil theses that have been written in Pakistan. The analysis of studies and the systematic classification of research topics can help to reveal the prevailing themes, new directions, and underrepresented fields of the field through analysis of how these topics evolved over the years.

The results will be a great source of information to the researchers, educators and policymakers as they will be in a position to make informed decisions on curriculum design, research priorities and professional training. In the end, the research may contribute to the further comprehension of the intellectual development of LIS in Pakistan and its role in the global research community. It will help to build a more balanced, innovative, and progressive LIS discipline by pointing out the flaws in existing research practices and contributing to the improvement of the situation. These are necessary to keep LIS teaching and research in Pakistan sensitive to the changes in technology, societal requirements and the increasing demands of the global information society.

2. Research Questions

The following are the research questions to investigate

- 1) How has MPhil research in LIS changed over time?
 - 2) What are the main subject trends in MPhil theses in LIS?
 - 3) What regions were focused in MPhil research?
 - 4) What particular tools and technologies were investigated?
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3. Literature review

The mapping of subject trends in Library and Information Science (LIS) has long been supported by bibliometric and content analysis approaches, which provide systematic insight into the intellectual evolution of discipline. Early foundational studies established the significance of bibliometrics as a tool for examining research productivity and thematic orientation. For instance, Pritchard (1969) formally defined bibliometrics as the application of mathematical and statistical techniques to scholarly communication, laying the groundwork for subsequent analyses. Building on this foundation, Peritz (1980) examined LIS research methods from the mid-twentieth century and identified a strong reliance on descriptive and historical approaches, with limited engagement in experimental or quantitative methodologies. Similarly, Nour (1980) observed that early LIS scholarship was largely concentrated in traditional domains such as library management, collection development, and bibliographic control, reflecting the profession's service-oriented origins.

By the late 1980s and early 1990s, LIS research began to diversify both thematically and methodologically. Atkins (1988) identified emerging areas such as information-seeking behavior and bibliometrics, alongside the growing influence of computer technologies. A major advancement in the classification of LIS research was introduced by Järvelin and Vakkari (1990, 1993), whose framework enabled systematic mapping of subject domains across international literature. Their findings demonstrated a gradual transition from traditional library-centered topics toward broader information science areas, including information retrieval, user studies, and information and communication technologies (ICTs). This shift marked the transformation of LIS into an interdisciplinary field influenced by computing, communication, and social sciences.

The advent of digital technologies in the late twentieth century significantly accelerated this transformation. Borgman (1999) highlighted the emergence of digital libraries and networked information environments, emphasizing that LIS was increasingly embedded in technological infrastructures and knowledge organization systems. Cronin (2008) further noted the expansion of LIS into related domains such as scientometrics, webometrics, and information policy, indicating a broadening of the discipline's scope. During this period, LIS research also became more globalized, with increasing contributions from developing regions, although disparities in research capacity and visibility persisted (Onyanha & Ocholla, 2004).

In recent years, LIS has evolved into a highly dynamic and multidisciplinary field. Contemporary research increasingly addresses advanced domains such as data science, artificial intelligence, digital humanities, and open science. Sugimoto et al. (2017) emphasized the growing importance of bibliometric and altmetric studies in analyzing scholarly communication within digital ecosystems, while Cox et al. (2019) underscored the significance of data stewardship and digital curation in modern LIS practice. These developments reflect the convergence of technological, social, and ethical dimensions in LIS research. However, the extent to which such emerging themes are incorporated into postgraduate research, particularly in developing countries, remains uneven.

In the South Asian context, and particularly in Pakistan, LIS research has shown steady growth since the 1980s. Mahmood and Shafique (2010) found that research published in national LIS journals predominantly focused on information organization, library management, and user studies, with limited attention to advanced areas such as data science and digital curation.

Ameen (2018) argued that despite maturation, LIS research in Pakistan continues to face constraints related to limited resources, institutional capacity, and weak international collaboration. Similarly, Ullah and Rafiq (2022) identified uneven thematic development, with significant attention to information-seeking behavior and ICT applications, but minimal engagement with emerging domains such as artificial intelligence and big data.

Postgraduate theses, particularly at the MPhil and PhD levels, represent a critical yet underexplored source of knowledge production in LIS. These works often reflect emerging research interests and institutional priorities (Khan & Bhatti, 2017). Studies from developing regions suggest that theses not only reveal subject trends but also highlight gaps in curriculum design and research infrastructure (Ocholla, 2009). In Pakistan, Ameen and Haider (2007) conducted one of the earliest content analyses of LIS theses, finding a dominance of traditional topics such as information literacy and digital libraries. Subsequent studies have reinforced the need for research-driven curricula to address evolving information challenges (Rehman, 2008). Recent bibliometric investigations further emphasize the importance of evaluating LIS research trends. Ullah and Ameen (2021) reported low citation visibility among Pakistani LIS scholars, indicating limited global impact. Similarly, Lippincott et al. (2021) and Moin Ud Din et al. (2022) observed that postgraduate research often remains confined to conventional themes, with insufficient engagement in emerging technological domains. Sheikh et al. (2022) highlighted a critical gap in the literature, noting the absence of comprehensive thematic analyses of LIS theses over time in Pakistan.

Mapping subject trends is essential for understanding the intellectual trajectory and future direction of LIS. As emphasized by Zhao and Strotmann (2008), LIS is inherently interdisciplinary, shaped by interactions with computer science, education, and social sciences. Trend analysis enables the identification of dominant and underrepresented areas, supporting curriculum development, policy formulation, and professional training (Khan & Bhatti, 2012). It also facilitates evidence-based decision-making by providing insights into evolving user needs and technological advancements.

Globally, LIS research continues to expand into areas such as digital preservation, data analytics, and ethical information practices. However, in Pakistan, research remains largely practice-oriented, with a strong emphasis on descriptive and survey-based methodologies (Warraich & Ameen, 2010). While there is evidence of gradual thematic diversification, significant gaps persist in advanced methodological approaches and cutting-edge subject areas. The limited adoption of scientometric techniques such as co-word analysis and network mapping further constrains the depth of trend analysis (Zareef et al., 2024).

In conclusion, the literature indicates that LIS has evolved from a traditional, library-centered discipline into a diverse and technologically driven field. While global research reflects rapid advancement and interdisciplinary integration, Pakistani LIS research demonstrates a slower but steady transition. MPhil theses, in particular, offer valuable insights into subject trends but often lag in addressing emerging global themes. Therefore, systematic mapping of these trends is crucial for aligning LIS education and research in Pakistan with international developments and for fostering innovation within the discipline.

4. Research Methodology

The current research used content analysis where MPhil theses are analyzed to explore subject

trends in the field of Library and Information science (LIS). The content analysis used for the current study is both of qualitative and quantitative nature. The approach to the research is consistent with the research objectives. Thematic analysis assists in highlighting the prevailing and new research perspectives in the field of LIS academia.

The analysis is premised on secondary data. MPhil theses titles were gathered from the university libraries and other sources. Data collection implies the systematized collection of records of MPhil theses of HEC-recognized programs of LIS in Pakistan. The extracted data are entered with Microsoft Excel to manage and analyze preliminarily.

The analytical procedure comprises of data cleaning and standardizing and then classifying the themes manually without any pre-defined LIS subject categories. Moreover, NVIVO software was also used to improve the analysis of data and guarantee the reliability and richness of results.

5. Results

5.1 Characteristics of selected MPhil theses

The table shows the gender-based production of MPhil thesis in the Library and Information Science field. The statistics show that a slightly greater percentage of theses was made by the male scholars, with 55 percent as the total production, and 45 percent by the female scholars. This small disparity translates to a relatively equal involvement of both sexes in postgraduate studies in the field.

The table shows how the number of MPhil theses produced in the area of Library and Information Science is distributed over the years and there is a definite increase in the output of research works over the years. The contribution is the greatest in 2021-2024 with almost half of the total theses, and then a large proportion in 2016-2020. Conversely, the previous times, especially before 2013 show little research being done.

The table shows distribution of MPhil thesis production in Library and Information Science sector-wise at the university. The results show that government sector universities had slightly more share, generating 53 percent of the total theses, with the rest 47 percent made by the private sector institutions.

Table 1: Characteristics of selected MPhil theses

Gender		
Male	428	55.0
Female	351	45.0
Growth in theses		
2021-2024	383	49.0
2016-2020	332	43.0
2009-2013	046	06.0
Till 2008	08	01.0
Sector of universities		
Government sector	414	53.10
Private sector	365	46.90
Total	779	100

5.2 MPhil theses Subject Trends

In the table, the significant thematic areas found by the content analysis of MPhil theses in the Library and Information Science are outlined, with the inclusion of the essential trends in subjects in the field. The university or academic setting and libraries are the most prominent areas of research, which follow a strong institutional and operational focus. Studies focusing on information and student-centered topics also become important as they demonstrate the increased interest in considering the needs of users and information use patterns.

Also, the focus on the enhancement of access and the quality of services and resources and information-seeking behavior continues to be present in such themes as services, resources, and information-seeking behavior. Such emerging domains as information literacy, digital environments, and health information represent a transformation to modern and interdisciplinary research issues. Professional development in LIS is also emphasized by the fact that studies related to the librarian and research are included. On the whole, the evidence shows that, although the classical areas continue to be dominant, modern themes are becoming more and more influential in the process of shaping the rise of LIS studies.

Table 2: Major themes emerged during content analysis (n=779)

S.N	Major subject areas	Frequency
1	University/academic contexts	388
2	Libraries/Library	379
3	Information	214
4	Students	181
5	Services	110
6	Resources	91
7	Behavior/seeking	88
8	Literacy	77
9	Librarian	72
10	Medical/health	70
11	Digital	66
12	Research	53

5.3 Research productivity and regional focus

The findings show that there are high regional researching productivity gaps in Pakistan. Punjab becomes the most powerful producer, with the massive proportion of research, due to its good academic system, accessibility of LIS programs, and knowledgeable faculty. Khyber Pakhtunkhwa is moderate in its contribution suggesting that the research culture is developing, but still way behind Punjab. Conversely, Sindh exhibits a relatively low output despite its academic potential, implying that it is under using the resources. The contribution in Islamabad Capital Territory is low, indicating the lack of progress in LIS study. In general, the results show that the research environment is uneven, with one region taking the center stage. The trend highlights the importance of policy interventions to enhance the LIS education, research capacity, and institutional support in the underrepresented regions.

Table 3: Research productivity and regional focus

S.N	Locations	Frequency
1	Pakistan	128
1	Punjab	654
2	KPK	108
3	Sindh	022
4	Islamabad	013

5.4 Major Cities as focus of research

The table highlights the key cities as center of MPhil research in Library and Information Science and the geographic concentration is found to be extremely uneven. Lahore turns out to be the most researched center, as it contributed to most of the studies, which can be explained by the high level of its academic institutions, research centers, and LIS community. Peshawar is the second most researched city followed by Lahore. On the whole, the results show a centralized trend of research focus on a small number of urban centers, which creates the necessity to facilitate balanced research for different cities across Pakistan.

Table 4: Major Cities as focus of research

S.N	Cities	Frequency
1	Lahore	132
2	Peshawar	093
3	Islamabad/Rawalpindi	047
4	Multan / Bahawalpur / South Punjab	039

5.5 Tools and technologies used

The table shows the spectrum of the tools and technologies that have been discussed in MPhil theses in Library and Information Science, with dynamic trends in the subject. Social media platforms have become the most salient field of research, which suggests the increased interest in the user interaction, communication, and spread of information via digital sources. Even digital libraries and websites are given appropriate attention and emphasis is given to the transition of accessing information and providing services online.

New technologies like artificial intelligence are represented in a limited manner, which may be an indication of preliminary investigation in the domain of LIS research. Other conventional library systems such as the Koha, OPAC and RFID reflect relatively low attention which shows a slow shift to the traditional systems to more interactive and user-friendly technologies. In general, the trends indicate the growing orientation of LIS research towards digital transformation and modern technological development.

Table 5: Tools and technologies used or investigated

S.N	Types of tools and technologies	Frequency
1	Social Media (YouTube=4, Facebook=4, WhatsApp=3)	39
2	Digital Library	18
3	Website	14
4	Artificial Intelligence	07

4	Koha	04
4	OPAC	02
4	RFID	01

6. Findings and discussion

The results of this research uncover major trends in the topic of study and research in Library and Information Science (LIS). With regard to the subject trends, the study finds a shift in the subject matter of traditional library-based topics to more user based and technology-based subjects. As much as academic libraries and institutional studies continue to be dominant, there is an increased attention to information-seeking behavior, quality of service, and user needs. The interdisciplinary character of contemporary LIS research is manifested in emerging fields of information literacy, digital environments, and health information. This transition highlights how the field is adapting to the modern information challenges and how it is in line with the global research priorities.

The geographical variation in research output has also been present where Punjab and other big cities such as Lahore produced most of the research. This concentration demonstrates the inequalities in the allocation of academic resources and research opportunities in regions. The results highlight the importance of policy interventions to influence a balanced development of research in the country. On the whole, the paper shows that the field of LIS is gradually shifting to become more modernized, inclusive, and technologically connected, without losing its original emphasis on the structuring and access to information.

7. Conclusions

The current study finds that the world of research in the Library and Information Science (LIS) sphere is experiencing a major shift that is marked by inclusivity, expansion, and technological progress. The theme trends analysis reveals that there is a shift in the traditional library-centered research to more user-centered and technology-oriented topics. Although academic libraries and institutional studies are still in the center stage, there is a growing concern with information-seeking behavior, service quality, and user needs. The interdisciplinary and modern character of LIS research is shown in emerging fields, including information literacy, digital environments, and health information. Nevertheless, the research also finds pronounced regional and urban differences in research focus with Punjab and big metropolitan areas, such as Lahore, controlling the output. This is where the concentration is focused on inequality in resource distribution and research opportunities. Moreover, the increasing focus on digital tools, especially social media and digital libraries, suggests a transition to new information practices, although more advanced technologies, like artificial intelligence, are not studied fully. To sum up, LIS studies are increasingly moving towards the modernization, inclusivity, and digitalization, with emphasis on the necessity of balanced regional development and the expansion of technologies.

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