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Mapping Population Choices in Library and Information Science Research: A Content Analysis of Mphil Theses from Pakistan

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Abstract

This paper analyzes population selection in MPhil Library and Information Science LIS theses in Pakistan. Population choices refer to major aspects like the geographical location, social level of population, scope of population and size of population. A quantitative content analysis method was adopted where 112 theses were analyzed. Frequency counts and percentage distributions were used to determine the dominant trends. The findings show that the process of population selection depends mainly on the dynamics of accessibility and institutional proximity instead of theoretical and research-based arguments. Geographically, the populations were usually localized in the surrounding cities or institutions whereas the selection of the social level was primarily directed on the student, librarian and faculty member. Population size was often restricted to one or two departments or organizations and less than half of the theses made an explicit report of the population size. Reasons behind population choice were either lacking or not sufficient and little proportion gave clear reasoning according to the research objectives or representativeness. The paper finds that even though the present procedures of population selection make the collection of the data feasible, they are usually not conceptually clear, thoughtful, and thoroughly reported. To enhance the relevance of LIS research in Pakistan, strengthening methodological training, focusing on clear population definitions and standardization of reporting practices are necessary to enhance credibility, transparency, and scholarly contribution of the research.

Keywords: *Population Selection; Scope; Social Level; Population Size; Justification; Content Analysis; LIS Research; MPhil Theses; Pakistan*

1. Introduction:

In any empirical research, it is important that the right research population should be identified and defined because population choice has a direct effect on the validity, credibility, and generalizability of research results. Population is the central point of social science research, and especially of Library and Information Science (LIS), where data is collected, analyzed, and construed (Creswell, 2014). The explanatory power of a study and the range of recapitulation to its conclusions may be undermined by an insufficiently described or insensibly supported population. The process of population selection is multidimensional, which implies that it includes multiple decisions regarding the institutional context, time span, demographics, social stratum, scope, and the number of people (Neuman, 2014; Kumar, 2019). All these dimensions determine the structure of a study and how far the research objectives are explored. The methodological literature before it highlights the importance of explicitly and transparently reporting population characteristics in order to increase methodological rigor and promote the reproducibility of the research (Bryman, 2016).

Such populations as library users, information professionals, students, faculty members, and institutions are often useful in LIS research. Population choice is especially essential due to the diversity of these groups because the various populations imply various research designs and considerations to be made during the analysis (Ameen, Batool, and Naveed, 2016). Nevertheless, in spite of this significance, the concept of population selection has been largely under-emphasized as secondary methodological component of studies in LIS, which is not as cautiously regarded as research approaches, data collection instruments, or sampling methodologies (Singh and Babbar, 2014; Koufogiannakis and Brettle, 2016). Though these studies are very useful in understanding the patterns of methodology, they very seldom offer a thorough analysis of the way in which research population is defined, classified and scoped. Specifically, such dimensions like the representation of gender, the level of the social population, and the population itself are usually not reported consistently or are not mentioned at all.

The objective and unbiased coverage of population characteristics has become an increasingly important concern in contemporary scholarly discourse. The ethical practice of research entails that gender should be examined according to what has been reported and not assumed by making it neutral and inclusive (American Psychological Association, 2020). Equally, articulation of population scope (local, regional, and national) and population size enhances the interpretability and methodological transparency of findings of a research study (Teddlie and Yu, 2007).

MPhil theses are an important and significant research output in LIS and indicate current approaches to the methodology in academic institutions. The discussion of population choice in these theses will provide important information on research training, supervisory practice and methodological awareness during postgraduate level. Nevertheless, there are limited systematic and detailed studies that directly involve the research on population selection in LIS MPhil. In order to fill this gap, the current paper will undertake a content analysis of LIS MPhil theses to map population choice on various dimensions, such as institution, year, and gender, area of population, scope, social level, and population size. This study will help achieve a better methodological clarity in future LIS studies by offering a structured and empirical summary of the current population selection practices as well as assist in more arduous population design.

2. Research objectives:

Research methodologies, methods, and data collection practices have attracted a significant amount of research in the field of Library and Information Science (LIS) (e.g., Järvelin and Vakkari, 1990, 1993; Tuomaala et al., 2014; Koufogiannakis and Brettle, 2016 etc). Nevertheless, little has been said with regard to research population definition and selection especially in post-graduation research. Current research has mostly considered population selection as a minor methodological aspect, and not much attention was paid to its multidimensional nature, including institutional context, demographic composition, scope, social level and population size. Although the study of population choice practices within LIS MPhil theses has increased at the postgraduate level, there is very little systematic study of the population choice practices in these theses. To fill this gap, the current research is going to examine population selection practices in LIS MPhil theses by means of a content analysis approach. The following are the specific objectives of the study

1. To examine patterns of population choice in LIS MPhil theses at institution and year of study.
2. To investigate the distribution of research populations in terms of gender, area of population, and social level in the LIS MPhil research.
3. To determine the magnitude of research population (local, regional, national or multi-institutional) in LIS MPhil theses.
4. To investigate the population size reporting and classification in LIS MPhil research.
5. To offer a multidimensional analysis of population selection methods of LIS MPhil theses to determine current trends and gaps in the methods used.

3. Literature review

Population selection has been established long as a regular element of study plan due to the fact that it stipulates the scope, validity and generalization of research results. Initial pioneer studies in Library and Information Science (LIS) by Järvelin and Vakkari (1990, 1993) studied the trends and methods of research

in LIS and indicated that the majority of empirical studies were based on small and limited populations, especially students and library professionals. Even though these studies did not specifically examine population characteristics, they laid the groundwork of the subsequent research into the methodological rigor and research design practice within the field. In the early 2000s, LIS work started to focus more on empirical methods, and this shift led to the increased focus on population definition and sampling methods. Ngulube (2005) looked at 41 LIS theses from the University of Natal and noticed something odd most didn't bother to clearly define their study population. Instead, they just tossed around vague labels like "users" or "students." Picking the right population isn't just a detail; it's what makes the findings actually mean something.

Wildemuth (2009) pointed out that you need to match your population to your research goals, plain and simple. But in reality, a lot of LIS researchers go for what's easiest to reach, not what actually fits their study. Bhatti (2011) and Raza and Warraich (2021) found the same problem in Pakistani theses populations got barely any description, and most were chosen out of convenience. Research also observed that, during this time, researchers would choose a population, because of institutional accessibility and convenience, as opposed to representativeness (Enger et al., 1989; Singh and Babbar, 2014). Consequently, population size, social level, and demographic factors could be often underreported, diminishing the interpretability and external validity of research findings. These issues were notably pronounced in postgraduate research whereby the methodological restrictions coupled with time limitations.

By the mid-2010s, systematic reviews started to take a closer and more critical look at methodological elements of LIS research. As noted by Tuomaala, Järvelin, and Vakkari (2014), the volume of LIS research had increased significantly; however, the aspect of population selection practices did not change much and preference remained to be on localized and homogeneous populations. Mahmood (2017) also observed that in LIS theses from developing countries, the size and scope of the population was rarely justified. These reports underlined that poor reporting of population characteristics such as social level and area undermines the methodological transparency.

More current research has made emphasis on ethical and analytical issues in connection with gender and social representation in LIS research. Ameen, Batool, and Naveed (2016) found that gender information is usually included in the LIS theses, but it is usually given in a descriptive manner with no interpretational analysis or bias. In the same manner, Kaplan et al. (2020) emphasized that demographic factors, including gender, social status, and professional status, should be systematically included in order to make the analysis more profound. Studies have also indicated that populations are often characterized in broad strokes without the precise identification of population size, and this brings the issue of reliability and credibility of the results (Kumar, 2019).

The latest approach to methodology notes that the above factors of population choice include research goals, type of data, and the method of analysis to provide rigor and credibility (Creswell, 2014; Bryman, 2016). The content analysis of LIS research has also resulted in studies showing that clear justification of population size and scope is intermittent, especially in MPhil theses, where access-based population predominates in research design (Mahmood, 2017). Nevertheless, in spite of the increased sensitivity towards the methodological standards, extensive studies of the population selection in numerous aspects (i.e. institution, year, gender, social level, area and population size) are scarce.

Inclusive, the literature which prevails notes specifically that whereas LIS research has been unconventional insofar as methodological diversity is concerned, practices of population selection have not undergone respective scholarly acclaim. Previous research has covered the research methods in general, which has created a gap in systematic and multidimensional population choice analyses in LIS postgraduate research. This gap has to be filled in so as to bring enlightenment to methodological clarity and provide the empirical base of LIS scholarship.

4. Methods and dataset

The current study followed a quantitative content analysis design to explore trends of population selection and associated aspects in Library and Information Science (LIS) MPhil thesis. The content analysis was deemed suitable because it allowed conducting a systematic, objective, and repeatable study of the research findings that were documented and, therefore, could identify the methodological trends and practices within a specified set of theses. The approach has experienced extensive application in LIS studies as a means of evaluating the

methodological rigor, research design decisions and report practices in academic dissertations and theses. A descriptive research design is used to examine frequencies and percentages of population related variables such as type of population, area of population, social level, scope of population and population size reporting. This design enabled a systematic comparison of the theses without control over variables as the emphasis was on describing the available practices.

4.1 Selection of research and sampling

Theses awarded by five library schools in Punjab, Pakistan were selected as population for the current study. Five universities are offering MPhil programs in LIS in Punjab province namely The University of the Punjab, Lahore, Islamia University Bahawalpur, University of Sargodha, The Superior University Lahore, and Minhaj University Lahore. Overall, a total of 663 MPhil theses were identified from these institutions. Among the government sector universities, Punjab University contributed 114 theses, Islamia University of Bahawalpur 92 theses, and the University of Sargodha 108 theses, making a combined total of 314 theses. The private sector universities, including Superior University and Minhaj University, contributed 138 theses and 211 theses, respectively, with a combined total of 349 theses

Convenient and purposive sampling techniques were used to select sample. Purposive sampling technique is used to select theses awarded in the latest five years (2020 to 2024). The purpose was to analyze selection of population trends in recent years. The convenient sampling was adopted because LIS MPhil theses in institutions were not easily available. Thus, the sampling was based on theses that had accessibility in the libraries of universities, departmental archives and institutional archives. Accordingly, the final sample comprised 112 MPhil theses produced between 2020 and 2024, drawn from both government and private sector universities. These theses constituted the unit of analysis for the present study and were examined in accordance with the objectives and coding scheme of the research. The theses were selected on the basis of their availability in university libraries and institutional repositories and their relevance to the objectives of the study, following a purposive sampling technique.

4.2 Data coding and analysis

The data were determined using a coded scheme that was formed to come up with information that was uniform across all the theses. The coding particularly targeted population related aspects that were reported in the methodology chapter such as:

1. Type of population
2. Area of population
3. Social level of population
4. Scope of population
5. Status of population size reporting

Microsoft Excel sheets were used to enter data according to the coding scheme. Frequency and percentages were used to analyze results.

5. Results:

5.1 Characteristics of selected theses

Table1 shows the distribution of theses selected from different universities. Superior University was on top of the list with 41 theses. Punjab University had the second highest number of theses (23) and University of Sargodha came in third with 22 theses. The Islamia University of Bahawalpur has less share with 14 theses.
With respect of sector of universities, almost equal distribution of theses was from government and private sector. The government sector universities contributed over half of the research output (53%) and this influence is easily visible in this field over the years considered.
The yearly distribution of MPhil Library and Information Science theses across the period of 2020 to 2024 indicates that 11 percent theses were awarded in 2020 and numbers of theses were higher for subsequent years. The number of theses began picking up in 2021 (19) and increased in 2022 (27).

In respect of gender, MPhil LIS theses selected were almost equal with 55 males (49.11) and 57 females (50.89) out of 112. The presence of both male and female researchers makes the findings more legitimate as it guarantees the variety of academic approaches in the field of LIS research.

Table 1: Demographic Information of the Data:

Variable	Category	Frequency	Percentage
Universities contribution	The Superior University Lahore	41	20.54
	University of the Punjab, Lahore	23	19.46
	University of Sargodha	22	12.50
	Islamia University Bahawalpur	14	36.61
	Minhaj University, Lahore	12	10.71
Sector of Universities	Government universities	59	52.68
	Private universities	53	47.32
Year of submission	2020	12	10.71
	2021	19	16.96
	2022	27	24.11
	2023	29	25.89
	2024	25	22.32
Gender	Male	55	49.11
	Female	57	50.89
Total		**112**	**100%**

5.2. Type of Population in MPhil LIS Theses

Findings provided in table 2 indicate the types of population selected in MPhil theses. Most of the studies (78 theses; 69.64) were at the individual level which proves the high tendency of the researchers to research about personal behaviors, attitudes, skills, and perceptions. A lesser yet substantial amount of the theses (18 studies; 16.07%) focused on institutional populations (such as libraries, universities, research institutes, and other organizational actors). There was a lack of research on groups (7 theses; 6.25%) and communities (6 theses; 5.36 %). Events in group-based populations tend to consist of particular professional clusters, teams or determined subsets in institutions whereas community-based studies consider larger social or geographical populations, like local residents or rural community. The other category (3 theses; 2.68%), includes those studies, which do not necessarily fit the predetermined classifications. These also cover mixed or other population, e.g., institutional websites, datasets, or unspecified user types.

Table 2: Type of Population in MPhil LIS Theses:

Type of Population	Frequency	Percentage
Individuals	78	69.64
Institutions	18	16.70
Groups (student groups-03, librarian groups-02, faculty groups-02)	07	06.25
Communities	06	05.36
Others (research articles-01, websites-01, secondary data-01)	03	02.68
Total	**112**	**100%**

5.3 Individual-Level Populations in MPhil LIS Theses (n = 78)

With respect to individual populations, Table 3 indicates the clear tendency to target population of students (38%) with 18 theses (23.08%) collected data from postgraduate student and 15% these collected data from

undergraduate students. These statistics illustrate the fact that 26% of MPhil research focused on or collected data from library practitioners. In 8 theses (10.26%), the emphasis on teaching and research in universities was placed, with the faculty members and academic staff being studied. Scholars of research were also present in 5 theses (6.41%), and non-LIS professionals (lawyers, doctors, judges, farmers) were the least represented because only 4 theses were found (5.13%). This implies that interdisciplinary populations are not researched in LIS MPhil with a minimum share.

Table 3: Individual-Level Populations in MPhil LIS Theses (n = 78)

Individual level population	Frequency	Percentage (%)
Librarians / library professionals	21	26.92
Undergraduate students	18	23.08
Postgraduate students (MS/MPhil/PhD)	12	15.38
LIS students (BS-LIS / MLIS / MAIM)	10	12.82
Faculty members / academic staff	08	10.26
Research scholars	05	06.41
Non-LIS professionals (lawyers, doctors, judges, farmers)	04	05.10
Total	**78**	**100.00**

5.4 Institutional –level population in MPhil LIS Theses (n=18)

Table 4 indicates (n = 18) reveals that university libraries (public and private), are the most popular institutions, which were mentioned in 7 theses (38.89%). This reveals that over a third of the institutional-level research on university libraries, a topic of central interest in LIS research, has been carried out on them, and they are more accessible as research environments. The second most common institutional category identified as central and departmental libraries was used in 4 theses (22.22%). This shows that there is a significant concern in the comparison or evaluation of various functional units in the academic institutions. In 3 theses (16.67%), medical and hospital libraries were chosen, with an average interest in specialized information environments. Conversely, in 2 theses (11.11%), public libraries were mentioned, which could suggest a lack of institutional studies in the field of a public library. On the same note, the 2 theses (11.11%), which included research institutes and special libraries, were one of the least researched institutional populations. This implies that non-academic and special research institutions are still underrepresented in the LIS MPhil research.

Comprehensively, in frequency and percentage distribution, there is a heavy preponderating of academic institutions, especially university libraries, as the institutional population of LIS MPhil theses, and relatively less research has been undertaken on the research population of the public, special, and research institutions

Table 4: Institutional –level population in MPhil LIS Theses (n=18).

Institutional category	Frequency (F)	Percentage (%)
University libraries public & private	7	38.89
Central & departmental libraries	4	22.22
Medical , hospital libraries	3	16.67
Public libraries	2	11.11
Research institutes / special libraries	2	11.11
Total	**18**	**100.00**

5.5 Scope of Population in MPhil LIS Theses:

Scope is used to determine geographical or institutional boundaries of a study population. Table 11 demonstrates that the majority of MPhil LIS theses were carried out on provincial and regional levels, with each of them representing 34 studies (30.36%), which implied the desire to conduct research in larger but manageable contexts. The other category reflects 27 theses (24.11) and consists of mixed or non-geographical scopes that are specific to particular research requirements.

There are 12 theses on a single-institution study (10.71%), which provides a detailed study in a single organization. The number of studies conducted at the national level is limited (5; 4.46%), presumably because of logistical, financial, and administrative limitations. It is interesting to note that no thesis used an international scope (0%), which shows little interaction with cross-national research. Overall, it is evident that LIS studies considerably prefer viable provincial and regional scopes, and the national and international level is underrepresented, which indicates the areas where the research can be developed in the future

Table 5: Scope of Population in MPhil LIS Theses:

Scope Category	Frequency	Percentage
Provincial Level	34	30.36
Regional Level	34	30.36
Others	27	24.11
One institution	12	10.71
National	05	04.46
Total	**112**	**100%**

5.6 Reporting of population size

Table 12 shows the description of population size in LIS MPhil theses. The findings demonstrate that the percentage of the theses that reported the population size with precise numerical values is low (50 theses or 44.6 percent), which is tolerable but not consistent methodology practice. Another 20 theses (17.9%) employed estimated or approximate values (e.g., broad range, open description), something that decreases methodological transparency and treatment of sampling defensibility.

Also, 10 theses (8.9) characterized population by institutional units and did not specify the size, 10 (8.9) used qualitative descriptions only to define location, time period, or characteristics of a group. Even though these methods imply partial conceptualization of the population, they are not quantified. It is interesting to note that 22 of the theses (19.7) did not define the population size at all, which is a severe methodological limitation restricting the transparency levels, the ability to evaluate the representativeness, and the ability to correlate the population and the sampling approach. These results highlight the critical importance of placing greater focus on the explicit population identification in the LIS research education and training as well as supervision in future research in order to increase the methodological rigor and improve the generalizability of future research works.

Table 6: Reporting of population size

Population Size reporting	Frequency	Percentage (%)
Clearly Stated with exact numerical value	50	44.6
Population size not specified at all	22	19.7
Estimate or approximate population size	20	17.9
Population described qualitatively but not quantified	10	08.9
Population defined by units or scope without total number	10	08.9
Total	**112**	**100**

6. Discussions

According to the analysis of 112 sampled LIS MPhil theses, it is possible to outline specific trends and gaps in population selection. Most of the studies capitalized on populations at individual level, especially students (35.7%), librarians (22.3%), which underscore the preference by researchers of population that is easy to access and handle. The implication of this dominance is that the individual respondents including students, faculty members, librarians, and other professionals will be more available and viable to collect data. The high count of individual-based researches is probably because of convenient sampling in academic settings. The institution studies usually include testing the practices, resources, services or policies of the institutions. Their relative low frequency can be due to the difficulty associated with obtaining organizational approvals, the complexity of the institutional level information and the large scale that is needed in such analysis. The low representation in other classifications suggests that researchers will find it more challenging to reach or operationalize these populations, or they will find individual-level studies easier to work with given the limits of time, resources, and training to do research. It is not unique since the same tendency has been observed among past studies on LIS in which individual respondents prevail because of convenience and the possibility of data collection (Ankem, 2008; Zhang to et al., 2017).

On the other hand, the representation of groups, communities and institutions was very low. The proportion of group level studies (6.25%) and community based studies (5.36) were low and the institutional population constituted 16.07% of the total. These trends imply that a more inclusive organizational or societal view is not often included, which is probably explained by the difficulty of access, coordination, and administrative approvals (Togia & Malliari, 2017). The lack of faculty, administrators, and multi-stakeholder groups is a sign of the gap in the knowledge about the dynamics of institutions and the decision-making process in LIS research

Geographically, majority of the studies concentrated on local (46.43%) and regional (39.29%) and populations with national (10.71%) and international (3.57%) populations rarely being studied. It means that there is a preference to physically and administratively accessible populations. That distribution is a result of the researcher bias to study settings that are geographically local and practically accessible, potentially because of the limitation of resources, administrative issues and the convenience of conducting research in settings familiar to the researcher. Simultaneously, the fact that there are not many studies at national and international levels indicates a possible direction of the research development in the future. Researchers might contemplate conducting research that would encompass more diverse groups of people or international situations to obtain broader information and leave their mark in the global academic field. Such results can be compared to the previous research that examined the scope of articles written by Pakistani authors (Ullah and Ameen, 2018). Although the local and regional research can offer contextual information, a small access to national and international populations restrains the extrapolation of the observations and leaves the cross-institutional research or cross-national one

The other important observation made is the inconsistent reporting of the population size. Fewer than half (44.6%) of the theses gave precise numerical population numbers, the rest were based on estimates or qualitative descriptions or did not specify the population size. Such imprecision decreases transparency, restricts the assessment of the sufficientness of sampling, and compromises the credibility of study results (Crawford and Feldt, 2007, Zhang et al, 2017).

7. Implications

This study offers a detailed, multidimensional examination of population selection in LIS MPhil theses from Pakistan, providing critical insights into patterns, gaps, and methodological practices that have remained underexplored. It reveals a pronounced reliance on individual-level populations, particularly students (35.7%) and librarians (22.3%), while broader groups, communities, and institutional populations remain significantly underrepresented, highlighting the constraints researchers face in accessing complex populations. The analysis further demonstrates that population choice is shaped by institutional sector, year of study, and author demographics: theses from government universities show greater diversity in population types, while private university theses predominantly focus on accessible student populations; female researchers tend to conduct

studies involving individuals, whereas male researchers are slightly more represented in multi-stakeholder or institutional studies. Temporal trends indicate incremental improvement in defining population scope and size; yet local and regional populations remain dominant, limiting the generalizability of findings.

This study fills a major methodological gap in LIS research by mapping population type, area, social level, scope, and size, which is then empirically validated, and it can inform more rigorous, inclusive and representative research designs. The implications of the findings are significant to the supervisor, the curriculum developers, and the policy makers; they would guide training programs, methodological guidance, and theses supervision practices that would enhance the population selection, sampling adequacy and report transparency. Further, this research sets the standard of the further LIS research and identifies the opportunities to elaborate the studies to nation-wide and international groups, add multi-stakeholder approach, and improve the quality, relevance, and the impact of the post-graduate research.

Finally, by identifying strong and weak points in the existing practices, the research makes a significant contribution to the further progress of the LIS research methodology in Pakistan and becomes the guideline to create the more comprehensive, generalizable and qualitative studies in the sphere. This research offers valuable information to the researcher, supervisor, and institutions by systematically reviewing the population selection in LIS MPhil thesis. It also finds discrepancies in population diversity, reporting documentation, and geographic, providing a guideline in more methodologically robust, inclusive and generalizable research designs. These findings can be used by future researchers to advance by making better choices in the selection of population, use of underrepresented populations, and reporting the population size, which can in turn improve the credibility and the value of LIS research.

The results of the study have a great impact on the promotion of the quality and relevancy of LIS researches. The preponderance in individual-level populations and local/regional emphasis underscores why researchers must be more diversified in their populations, particularly faculty, administrators, institutions, and communities, as a whole, in order to come up with more holistic and generalizable knowledge. The lack of reporting of the number of people sampled and convenience sampling highlights the lack of rigor in the methods, which highlights the significance of clear documentation, systematic selection, and reasonable sampling strategies. The research gaps can be filled by future researchers to increase the credibility, reliability, and policy relevance of LIS studies. Additionally, these insights can be utilized by academic supervisors and institutions to educate students in sound population selection and promote research that guides organizational behavior and national-level decision-making, which will make the output and influence of LIS scholarship more powerful and broad.

8. Conclusions

This paper will give a systematic review of population selection in LIS MPhil theses, which is that population on an individual level, especially students and librarians, and mainly a local and regional research setting. Group, community, and institution underrepresentation and reporting variability on the size of the population suggest methodological weaknesses restricting generalizability and rigor. The identified trends allow raising the question of more diverse, transparent and more strategically chosen populations in LIS research, which is emphasized by the study. The results provide worthy recommendations to the researchers of the future, supervisors, and institutions, as the population is to be strongly defined, with wider geography coverage, and inclusive sampling. Finally, proper population selection will be instrumental towards improving the credibility, impact, and policy influence of LIS research in Pakistan and other countries.

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