Research practices of LIS professionals in Pakistan: A study of attitudes, involvement and competencies

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Abstract
This study analyses the attitudes, involvement and competencies of Pakistani Library Information Science (LIS) professionals towards research. An online survey was carried out by using a questionnaire to collect data from LIS professionals working in various types of libraries in Pakistan. The findings reveal that the overall attitude of the Pakistani LIS professionals towards research is positive. A vast majority of them read research literature, albeit occasionally, while a small majority read the full-text articles. Two local journals, Pakistan Library & Information Science Journal (PLISJ) and Pakistan Journal of Information Management & Libraries (PJIML), are the top read titles. Though research contributions counted towards promotion of LIS professionals, a very small majority of them were currently engaged in research project/s. They do not feel very confident about their research expertise, yet aspire to increase their knowledge of research. Some of the factors that deter LIS professionals from engaging in research are: a lack of time, little support from their organisation, lack of research ideas and lack of research skills. Institutional support in terms of time, money and educational training would enhance opportunities for LIS professionals to produce more research and publication.

Keywords
Academic librarians; LIS research; Pakistan; research competencies; research involvement; research practices

1. Introduction
Research contributes to the growth of any profession by creating new knowledge and informing practice. The reported benefits of conducting library and information science (LIS) research to the profession, institution and individual are many and varied. It is necessary to raise the profile of LIS as profession or discipline; to improve problem solving and decision making at workplace; and to contribute to the career advancement of LIS professionals [1,2]. A wide array of LIS professionals’ research is noted in the literature including research articles, commentary, practice descriptions, news items and opinion papers. For the purpose of this study, research is defined as a range of scholarly activities and endeavours, which appear in single and co-authored books, book chapters, national and international research journals and conferences (either presented at conference or published in conference proceedings). This broad definition was intended to expand librarians’ perceptions of research and to encourage research activity.

In Pakistan, the history of LIS education and research can be traced back to 1915 when an American librarian, Asa Don Dikinson was appointed to conduct a training class of 30 working librarians at the University of the Punjab.
In the succeeding year, he also authored the ‘Punjab Library Primer’, the first ever textbook of library education [3–5]. Carrying on his legacy, LIS professionals continued to contribute subsequently though slowly to research literature [6–8]. Nonetheless, research remained a low priority among LIS professionals until 2005 due to lack of research culture in the country. The commencement of the PhD programmes with coursework in 2005 has a significant impact on LIS research. The last decade and a half has witnessed an upwards increase in the curve of LIS research output, mostly conducted and reported by LIS faculty [7–13]. Recently, Siddique et al. [8] reported that research produced by LIS faculty was almost double compared with that produced by LIS practitioners. However, no further study has investigated the reasons of this difference in research output regarding practitioners’ motivation for publication, the barriers they perceive and the supports they think would help. There is a particular lack of research studies that have assessed LIS practitioners’ involvement in research activities and their perceived research competencies. Furthermore, LIS professionals in Pakistan have no research obligations for recruitment and promotion. Without such motivation, how much they are involved in research and how they perceive their research skills are the interesting questions to investigate. The present study is designed to answer these questions in Pakistani perspective.

2. Literature review

During last couple of decades, the profession began to focus on evidence-based practice, leading the professionals to consider the published research that might provide a better basis for decision making and enhance their performance as librarians thus bridging the gap between research and practice [14,15]. However, in order to incorporate research into decision making, researchers need to explore the sufficiency of research base, needed areas for research, obstacles to and supports for conducting research. All these questions raised by Koufogiannakis and Crumley [15] lead to the conclusion that how much LIS professionals are engaged in research activities is related to what hinders and motivates them. Most of these studies appeared within academic library settings where research is expected to get recruited, promoted or tenured. This review is structured thematically; grouped into three broader categories derived from the research objectives guiding the study. The categories included (1) research involvement of LIS professionals, (2) research competencies of LIS professionals and (3) motivating factors, barriers and supports for research activities.

2.1. LIS professionals’ involvement in research

A number of studies investigated the practitioners’ involvement in research by exploring their practices. Powell et al. [1] found that a considerable number of practitioners in the United States and Canada regularly read research-based literature, do research, apply the results of research and engage in self-education as a means for learning about research methods. These activities indicated their positive attitude towards research. However, the study showed a downward trend of publishing research by majority of the respondents.

Kennedy and Brancolini [16] shared similar findings in a survey of academic librarians’ attitudes and involvement in research activities. They found that majority of the respondents were involved in reading the research-based literature by scanning tables of contents (78%) or reading the full contents of journals (66%) on a regular basis. A number of librarians (62%, 528) conducted research and only 77% (406) of them disseminated the results of their research at conferences, or their working institutions or in refereed journals. An updated survey by the authors published in 2018 showed a downward trend of regularly reading full content of research articles among librarians (58%). Conversely, an upward trend of conducting and disseminating research activities was reported with a 15% and 6% increase, respectively, from the previous survey. The main venues sought for dissemination remained the same. They further found that a number of respondents were engaged in educational activities about research methods such as self-learning through professional reading, online tutorial, formal courses, workshops and conferences. Overall, their practices indicate a very positive attitude of LIS practitioners towards research activities [17]. It is interesting to note that the above-mentioned three surveys listed two titles, College & Research Libraries and The Journal of Academic Librarianship as the main journals regularly read by the respondents.

A study from the perspectives of developing countries showed a low level of librarians’ involvement in research. Apolinario et al. [18] reported that only 50% Filipino librarians scanned the tables of content or abstract of research articles due to non-subscription, while 27.7% respondents who have full-text access regularly read the full content. The culture of doing and disseminating or otherwise sharing knowledge among practitioners was also less prevailing in Philippine.
2.2. Research competencies

Numerous studies attempted to determine how practitioners assessed their research competencies, education and training. Overall, librarians perceived that they have average or low level of research confidence due to lack of competencies to conduct research. Powell et al. [1] reported that librarians did not have enough expertise in research methods. Berg et al. [19] also reported that Canadian library administrators ranked the research skills of librarians at their institutions at a low level. Another study by Apolinario et al. [18] reported an average level of confidence among Filipino librarians in performing various research tasks. Koufogiannakis and Crumley [15] claimed that many practitioners are not confident and comfortable with conducting research. Conversely, most of the respondents highly rated their own confidence level in completing the discrete steps of a research project in both surveys by Kennedy and Brancolini [16,17]. The research steps included, but not limited to, were devising research questions, reviewing literature, choosing research design, gathering and analysing data, reporting and disseminating results. Further analysis revealed that confidence in performing the steps involved in a research project is a predictor for the librarian’s involvement in research.

Bolin [20] claimed that librarians were ill-prepared to take on research due to a lack of education and training in research skills. Powell et al. [1] also believed that poor education and training hinders the acquisition of adequate research competencies and ultimately leads to unfamiliarity with research process, lack of research skills, less confidence and other related barriers. Studies reported that librarians received little or no training in research methods as part of their LIS master’s degree. They believe their LIS master’s degree training adequately prepared them to read and understand research-based publications but did not prepare them to conduct original research. However, no significant relationship between conducting research and the respondents’ belief about the adequacy of LIS master’s degree for the purposes was found. On the contrary, participation in educational activities about research methods had a positive impact on conducting research [1,16,17,21]. Nonetheless, Luo [22] reported that no statistically significant relationship exists between taking a research methods course and a librarian’s involvement in research work.

2.3. Motivations, barriers and supports

A number of studies listed personal, professional, institutional and educational factors that motivated practitioners to conduct research. It is commonly understood that most of this research is produced by academic librarians of those countries (i.e. The United States, Canada) which grant them faculty status, and which require or expect research of them. Faculty status and corresponding research expectations seem to be, if not the only, strong reasons. Fennewald [21] concluded that most of the produced research by academic librarians was produced primarily due to the impact of the faculty status and the influence of research practices in the institution. He further added that personal satisfaction, intellectual curiosity and education along with institutional support were the other important factors that motivated the librarians at the Pennsylvania State University to conduct research.

Personal recognition and enhanced visibility, improvement in organisational practice and job-related role, a desire to share ideas and to raise personal or library profile, personal interest and career progression are the motivating factors, which appear repeatedly in literature [1,2,23,24]. Financial rewards and incentives, though missed from other studies, covered by Clapton [2] were found to be a less preferred category. Berg et al. [19] reported that promotion and/or tenure was the strongest motivating factor for research activity by librarians, followed by professional advancement and personal growth. It is worth noting that promotion and/or tenure also included financial benefits along with personal growth and recognition. Recently, Kennedy and Brancolini [17] categorised these contributing motivators into extrinsic and intrinsic factors and summed up well that the common extrinsic factors are the requirements for promotion, tenure and annual merit pay increases, and intrinsic factors involve personal satisfaction, intellectual curiosity and the desire to contribute to their profession.

2.4. Barriers

A fair volume of literature is also available discussing the barriers hindering the practitioners from conducting research. Time, money, education, training and institutional support are the most frequent constraints to carrying out research. Among them, most commonly and repeatedly mentioned barrier is lack of time [2,15,21,25]. The possible reason usually mentioned is an inflexible or tight work schedule, which gives little or no time for practitioners to carry out research [20,24]. Fennewald [21] acknowledges the fact that writing is a hard, labour-intensive job and requires diligence. However, a surprising contradiction was pointed by Fox [25] in the same study where a few librarians had taken advantage of the opportunity for sabbatical, study and annual research leave. She stated, ‘beyond the face value of the time...
excuse, it seems a matter of setting up habit, discipline and priorities which prevents them from making use of the free
time to do research’. Boice and Clapton [2,26] found that librarians spent their short slots of free time in leisure reading
and social interaction that requires less attention. However, Silvia [27] premised that the use of short free time slots for
writing would be more productive than waiting or desiring for long chunks of time. Koufogiannakis and Crumley [15]
pointed out that, ‘along with a lack of time in the workplace, librarians may not have the institutional support to under-
take research projects during work time’. Lack of funding, inadequate education and lack of research training are the
commonly noted obstacles preventing librarians from conducting research [1,16,25,28,29].

2.5. Support for research
During recent years, researchers turned their attention to the factors that enable librarians’ research success. They pointed
out that a librarian may need educational training in research methods, possession of advance degrees, mentoring by an
experienced researcher, financial support, designated time incentives and rewards [1,2,16,17,21,30]. Hoffman et al. [31]
identified 16 factors that contribute to research productivity through qualitative textual analysis of the literature on
research productivity. These factors were grouped into three broad categories as individual attributes, peers and commu-
nity, institutional structures and supports.

There is much focus on the possibility of shifting organisational culture to be more aware and more supportive of
research, which will ultimately help in creating the supportive environment. Hollister [32] reported that librarians
who expressed their library environment as encouraging and supportive of scholarship were producing significantly more
research. Formal and informal mentoring programmes in libraries, membership of research clubs and peer support
groups, institutional support in funding and release time are the leading factors of institutional support [15–17, 21, 33–
35].

The above review reveals that LIS professionals within academic library settings are more involved in research activ-
ities. Knowing about the research practices, attitude and competencies of professionals in a developing country, where
research is not required or expected as a part of job will be an interesting side of the story to unfold.

3. Study objectives
The main objectives of this research were as follows:

1. Measure the involvement of Pakistani LIS professionals in research.
2. Identify the problems that Pakistani LIS professionals face while conducting research.
3. Find out the research support available for Pakistani LIS professionals by their institutions.
4. Analyse the attitudes of Pakistani LIS professionals towards research.
5. Assess the level of research competencies in Pakistani LIS professionals.

4. Methodology
This research employed an online survey to achieve its objectives. The population of the study was the LIS professionals
working in various types of libraries in Pakistan. A structured questionnaire was designed by consulting the previously
published literature. In particular, help was taken from the tools used by Berg et al. [19], Bhardwaj [36], Clapton [2],
Crampsie et al. [30], Hoffmann et al. [37], Jacobs and Berg [38], Kennedy and Brancolini [16,17], Perkins and Slowik
[39] in their studies. The research tool comprised questions about involvement, attitudes, perceived barriers, support and
research competencies of LIS professionals along with demographic information. A combination of factual, multiple
choice, open/close ended and Likert scale–type questions were used in the tool. The tool was also shared with experts in
the field of LIS to check its validity. After validation, the questionnaire was mounted on the web through an online tool
‘Google Forms’. Multiple methods including online social media platforms, individual email address of LIS profes-
sionals, professional email groups and professional WhatsApp groups were used to collect data from the respondents. Three
reminders were also sent to the respondents after some intervals to increase the response rate. The survey remained open
for feedback of the respondents from March 2020 to April 2020. A total of 384 responses were received in the given time
frame, of which 14 responses were found invalid with empty entries and, therefore, were discarded. After data cleaning,
370 responses were finalised for the data analysis. The collected data were analysed by using descriptive statistics includ-
ing percentage counts and mean score, and presented in the form of tables, graphs and diagrams.
5. Results

5.1. Demographical characteristics

The response rate of the LIS professionals was a bit slow in the start and only 110 responses were received in the first phase of data collection. However, after sharing the questionnaire at multiple information channels, including the professional email, WhatsApp and social media groups, and sending reminders to the respondents, the response rate raised to a total of 370. The first question asked of the respondents was about their demographical details. Table 1 shows the breakdown of the demographic details of the study participants. It shows that a good number of the respondents 147 (39.7%) were librarian. A majority of them 205 (55.4%) were master’s degree holders. It is notable that a number of them held research degrees, though a few held doctorate degrees. With regards to the professional experience, most of the respondents 115 (31%) had one to five years of work experience.

Table 1. Demographics of respondents.

| Professional status     | Frequency | %  |
|-------------------------|-----------|----|
| Chief librarian         | 12        | 3.2|
| Senior librarian        | 22        | 5.94|
| Librarian               | 147       | 39.7|
| Deputy librarian        | 16        | 4.3|
| Assistant librarian     | 74        | 20 |
| Other                   | 99        | 26.7|
| Qualification           |           |    |
| PhD                     | 9         | 2.4|
| MPhil/MS                | 156       | 42.1|
| MLIS/MIM/BS             | 205       | 55.4|
| Professional experience (years) | |    |
| 1–5                     | 115       | 31.0|
| 6–10                    | 106       | 28.6|
| 11–15                   | 95        | 25.6|
| 16–20                   | 28        | 7.5 |
| 21–25                   | 26        | 7.0 |

Figure 1. Research literature reading (N = 370).

5.2. Research literature reading

The respondents were inquired about their habit of reading the research literature. Figure 1 shows that a vast majority of the LIS professionals, 277 (74.9%), read research literature. Almost one quarter of them, 93 (25.1%), responded negatively in this regard.
5.3. Reasons for not reading the research literature

The respondents were asked to mention the reasons of not reading research literature. Table 2 demonstrates that some of the major reasons for not reading the research literature includes: ‘preference of reading leisure readings, newspapers, magazines etc.’, ‘not enough expertise in research’, ‘a lack of time’ and ‘little or no access to research literature’.

5.4. Table of contents or full-text articles

Figure 2 demonstrates that a very small majority of the LIS professionals, 160 (44%), read full-text articles, while 147 (40%) read only the table of contents of the journals.

5.5. Frequency of reading research literature

The respondents were asked about the frequency of reading research literature. Figure 3 demonstrates that a majority of the LIS professionals (152) indicated that they read the research literature ‘sometimes’ while a moderate number of respondents (104) read ‘occasionally’. A moderate number of respondents (73) read the literature ‘frequently’, however, a very small number (21) ticked the ‘always’ option. This indicates that the LIS professionals do not read research literature on a very frequent basis.

5.6. Popular journal titles

The respondents were asked to list the names of those journals from which they read research articles. Table 3 demonstrates that the top two most-read journals are local titles ‘Pakistan Library & Information Science Journal’ and ‘Pakistan Journal of Information Management & Libraries’. A very few LIS professionals read articles from international journals. Some of the international journals they mentioned are: Library Philosophy and Practice, Library Hi Tech, Electronic Library, Library and Information Science Research, Journal of Academic Librarianship, Libri, IFLA Journal, Library Quarterly and Library Review.
5.7. Conducted research after completion of professional degree

To check the involvement of the LIS professionals in research work, the respondents were further asked whether they conducted research after completion of their professional degree. Figure 4 shows that a majority, 192 (53%), responded negatively while 169 (47%) responded positively to this question.

5.8. Channels of research dissemination

Those who responded affirmatively to the question concerning conducting research after completion of their Master’s/BS degree were further inquired about the channels through which they disseminated their research findings. Table 4 demonstrates that a majority of the respondents 61 (20.7%) disseminated their research through ‘presentation of a paper...
in a national conference’. The second major channel was ‘international conference’ with 50 (17%) responses, while the channels of ‘national’ and ‘international journals’ were placed on third and fourth positions, respectively.

5.9. Currently engaged in research

Figure 5 shows that ‘a slight majority’ of LIS professionals, 204 (55.8%), are currently engaged in a research study/project. This indicates that LIS professionals are involved in research activities, which is obviously a very positive sign. However, 161 (44.2%) of the LIS professionals provided negative response, which is a matter of concern.

5.10. Importance of increasing knowledge of research

The respondents were asked how important they consider it to increase their skills and knowledge of research. They were given five options to rate their opinion from ‘not important’ to ‘extremely important’. Figure 6 demonstrates that a huge majority of LIS professionals, 292 (78.9%), feel either important or extremely important to increase their knowledge of research. This indicates that the attitude of LIS professionals towards increasing their research skills and knowledge is positive.

5.11. Barriers in conducting research

The respondents were given a list of eight optional barriers and were asked to select all of those barriers that they encounter while conducting research. Table 5 enlists the rank order details of the barriers that hinder LIS professionals from conducting research work. ‘Lack of time’ was the major identified barrier with 133 (48.9%) responses. Other frequently mentioned barriers included ‘no support from the management’ 74 (27.2%), ‘lack of research ideas’ 64 (23.5%) and ‘lack of research skills’ 59 (21.7%).

Table 4. Channels of research dissemination (N = 294).

| Rank | Journal title                                      | Frequency | Ratio (%) |
|------|---------------------------------------------------|-----------|-----------|
| 1    | Presented at a national conference               | 61        | 20.7      |
| 2    | Presented at an international conference         | 50        | 17        |
| 3    | Published in a national journal                  | 49        | 16.7      |
| 4    | Published in an international Impact Factor Journal | 39       | 13.3      |
| 5    | Published in a national conference proceeding    | 37        | 12.6      |
| 6    | Published in an international conference proceeding | 36       | 12.2      |
| 7    | Published as a book chapter                      | 26        | 8.8       |
| 8    | Published a book (solo or co-author)             | 18        | 6.1       |

Figure 5. Currently engaged in a research project/study (N = 365).
The respondents were given a list of 10 activities involved in the research process. They were asked to measure their level of expertise in the given activities on a 5-point Likert-type scale ranging from: 1 = Not at all confident to 5 = Very confident. Analysis of the data showed that all of the respondents were ‘somewhat confident’ in performing the research activities, as the mean score of 90% activities was from 3.36 to 3.11 (Table 6). This indicates that the LIS professionals in Pakistan are not very confident in performing various steps of research process and need to improve their competencies.

**Table 5.** Barriers in conducting research (N = 272).

| Rank | Barrier                                      | Frequency | Ratio (%) |
|------|----------------------------------------------|-----------|-----------|
| 1    | Lack of time                                 | 133       | 48.9      |
| 2    | No support from the management               | 74        | 27.2      |
| 3    | Lack of research ideas                       | 64        | 23.5      |
| 4    | Lack of research skills                      | 59        | 21.7      |
| 5    | Lack of money                                | 41        | 15.1      |
| 6    | No access to research literature/tools       | 28        | 10.3      |
| 7    | Other                                        | 24        | 8.8       |
| 8    | Not interested in research                   | 22        | 8.1       |

**Table 6.** Research competencies.

| Rank | Competency                                      | Mean   | N  |
|------|------------------------------------------------|--------|----|
| 1    | Reporting results in written format             | 3.36   | 301|
| 2    | Literature review                               | 3.29   | 295|
| 3    | Determining appropriate format for disseminating results, e.g. (poster/presentation/article) | 3.27   | 314|
| 4    | Identifying appropriate places to disseminate results | 3.23   | 291|
| 5    | Data collection                                 | 3.23   | 286|
| 6    | Identification of research problem/topic        | 3.19   | 281|
| 7    | Publishing the research                         | 3.12   | 282|
| 8    | Data analysis                                   | 3.11   | 277|
| 9    | Presenting the findings at a conference         | 3.11   | 283|
| 10   | Peer reviewing                                  | 2.89   | 275|

Scale: 1: not at all confident, 2: slightly confident, 3: somewhat confident, 4: confident, 5: very confident.

**5.12. Competencies in research**

The respondents were given a list of 10 activities involved in the research process. They were asked to measure their level of expertise in the given activities on a 5-point Likert-type scale ranging from: 1 = Not at all confident to 5 = Very confident. Analysis of the data showed that all of the respondents were ‘somewhat confident’ in performing the research activities, as the mean score of 90% activities was from 3.36 to 3.11 (Table 6). This indicates that the LIS professionals in Pakistan are not very confident in performing various steps of research process and need to improve their competencies.
competencies in research work. It is surprising that reporting results in written format got highest mean score, while this step in research is usually considered hard and difficult. Moreover, the downward trend of doing and disseminating research among LIS professionals determined earlier also contradicts this finding. Further investigation is needed to explain this inconsistency.

5.13. Research support

The respondents were also asked to mention the support available to them from their employing institution (Table 7). They were provided with a list of 10 options and were asked to select all that were applicable. A majority of the respondents, 176 (49%), indicated that they did not receive any support from their parent institution. This finding is somewhat discouraging. However, 110 (30.6%) of the respondents indicated that their institution supported them in attending the ‘workshops or other forms of continuing education’. Time, travel funds, cash awards and research grants were some of the other provided supports ticked by few participants.

5.14. Contribution of research towards promotion

The respondents were also inquired about the role of research activities towards their professional benefits such as promotion in the next grades. Table 8 demonstrates that all of the research activities have a positive impact towards the promotion of LIS professionals into their next grades. A majority of the respondents, 135 (59.5%), indicated that ‘article publication’ counts towards their promotion in the next grade. Some other research-related activities that count towards the promotion of LIS professionals were: ‘workshop presentation at a conference’ 70 (30.8%), ‘paper published in conference proceedings’ 57 (25.1%), ‘book publication’ 54 (23.8%) and ‘conference paper presentation’ 51 (22.5%).

6. Discussion

This study reported interesting findings concerning the research-related activities, attitudes and competencies of LIS professionals in Pakistan. Some are expected and similar to international trends; others are not. For example, the involvement of LIS professionals in research was measured by inquiring their reading and research practices. It was found that a
The vast majority of LIS professionals (74.9%) read research literature, either full-text articles (44%) or only the table of contents (40%) but less frequently. ‘Pakistan Library & Information Science Journal’ and ‘Pakistan Journal of Information Management & Libraries’ were the two most-read local journal titles. A few LIS professionals read the international journals of repute such as Impact Factor Journal in particular. The reason may be attributed to the unavailability or inaccessibility of Impact Factor Journal in their respective organisations. However, it is highly recommended to Pakistani LIS professionals that instead of reading local research literature, they should consider reading literature from international journals, which will help them in gaining new ideas about research. The findings also indicate that very few LIS professionals (20) never read research literature, while rest of them did read either occasionally or regularly. The most frequently cited reasons for not reading research literature included preference to leisure readings, newspapers, magazines and so on, lack of research skills as well as time on the part of the respondents.

As far as doing research is concerned, a number of respondents (47%) were reportedly involved in doing and disseminating research through presenting and publishing in national and international conferences and journals, while a majority of them (53%) never did so. Although a small majority (55.8%) claimed engagement with some research project at the time of data collection, a considerable number of negative responses (161) in this regard were also notable. Overall, the findings showed an uptrend of research involvement among LIS professionals. A number of respondents either conducted or are currently involved in some research project after completion of their professional degree. Moreover, a desire to enhance their knowledge of research can be taken as a positive attitude prevailing among huge majority of the respondents (292). The authors expected a majority of LIS professionals to be less involved in research-related activities, and this was confirmed. However, all the percentages indicated positive responses towards reading and doing research and were somewhat higher than expected.

The authors were also interested in finding out reasons for not doing research. As expected, lack of time was a major barrier followed by less support from the management, lack of research ideas and skills. These extrinsic (time and support from the management) and intrinsic (research ideas and skills) factors impede research activities among LIS professionals. It is somewhat discouraging yet expected that 49% respondents did not have any institutional support for research. Very few respondents were privileged with research support in terms of on-the-job release time, travel grants with full or partial reimbursement and cash awards. Continuing education was the only research support category that got more than 100 positive responses. It indicates that LIS researchers have little or no institutional support for doing research and this may lead to less involvement in research activities. Less research involvement may affect their professional career as research contributions count towards their promotion to next grade. Research in various forms count towards promotion, therefore, LIS professionals should concentrate on increasing their research productivity. Universities and institutions should support the LIS professionals in their research work. These findings largely confirm previous studies’ conclusions for involvement, barriers and support for research activities.

No questionnaire items addressed the LIS professionals’ attitude towards research directly, but answers can be inferred from data gathered by other items. It was found, for example, that a considerable number of practitioners read research literature and articles, do and present research, and are willing to increase and enhance their knowledge of research activities, indicating positive attitude towards research.

The final research objective was to assess the research competencies of LIS professionals. The study reported an average level of confidence among practitioners in performing various research activities. This indicates that LIS professionals in Pakistan are not very confident about their research competencies and need to improve them in order to perform various research-related tasks.

### 7. Conclusion

This study has taken a first step towards understanding the attitudes, involvement and competencies of Pakistani LIS professionals towards research. Therefore, the results of this study have helped to fill a major gap in literature by highlighting the practices, barriers and support available to Pakistani LIS professionals in research-related activities. Although the study reports a positive attitude and reasonable involvement of the LIS professionals in research activities, some barriers exist that need to be addressed. At first, the LIS professionals highlighted a lack of organisational support from their parent institutions/organisations in their research work, which is a matter of great concern. Shortage of time, lack of funding, lack of research skills and training opportunities are some of the other barriers that need proper attention. All these hurdles demand other Pakistani entities to play their role in addressing these issues. For example, the role of professional organisations, such as Pakistan Library Association (PLA), Pakistan Library Club (PLC) and so on is crucial in this regard. They must raise their voice to create the organisational support for LIS professionals working in different organisations. In addition, they should conduct regular trainings and workshops to improve the research skills of LIS professionals. Libraries need to allow their professionals to take spare some time from their daily operations to carry out...
research-related activities. The LIS departments should come forward and play their part in encouraging their graduates to indulge in research and publication work to improve their personal research skills and contribute to the growth of their profession. The professional organisations, libraries and LIS departments should offer financial grants to librarians for their research-related activities. This will encourage LIS professionals to participate in research-related endeavours. Such measures would really help pave the way to promote research culture among LIS professionals in Pakistan.

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