

ROLE OF LIBRARIES IN ENHANCING RESEARCH SUPPORT SERVICES IN ISLAMABAD UNIVERSITIES

Adnan Ullah

Information Officer Library,
Information Services Department, Riphah International University, Islamabad, Pakistan
Email: adnan.ullah@riphah.edu.pk (Corresponding Author)

Muhammad Usman

Chief Librarian,
Library & Information Resource Center
The University of Faisalabad, Faisalabad
Email: chief.librarian.hsw@tuf.edu.pk

Mehranullah Baber

Information Executive Library,
Information Services Department, Riphah International University, Islamabad, Pakistan
Email: mehran.baber@riphah.edu.pk

ABSTRACT

This research aims to explore the libraries role in enhancing research support services (RSS) within universities in Islamabad, Pakistan. The research looks into how RSS is currently provided, indicates areas that need to be improved, and compares its findings with previous national and international studies on RSS. A quantitative survey of the library professionals employed by Islamabad's 26 universities was carried out. To gather information, a structured questionnaire was designed. To compute descriptive statistics, SPSS was utilized. The findings were compared with earlier studies conducted from both a national and international standpoint. The results of this study have applications for librarians, policymakers, and administrators at universities who are interested in improving research support services in academic contexts. Strategic measures targeted at enhancing RSS supply and ultimately improving research endeavors within Islamabad institutions might be informed by the strengths and deficiencies that have been recognized. By offering empirical insights into the function of libraries in improving research support services within context of Islamabad universities, this research adds to the body of literature already in existence. By placing the results in both national and international perspectives, the comparison with earlier studies adds value and deepens our understanding of RSS provision in academic libraries.

Keywords: Role of Libraries, Research Support Services, Academic Libraries, Library Services, Research Enhancement, Islamabad Universities

Introduction:

University libraries play a crucial role in supportive research and academic deeds. Traditionally, libraries offered facilities related to making information available to students, staff, and researchers. Conversely, it's important to acknowledge that the landscape resources and services of library is continually evolving within the context of the modern information environment (Sheikh, 2015). In the 21st century, university libraries serve not only as a support system for students' regular studies but also as valuable platforms for researchers (Forsman et al., 2012 and Ullah, A et al., 2023). University libraries play a weighty role in enhancing the efficiency and effectiveness of study and fostering innovation within their parent institutions. As a result of rapid technological advancements, the instructional role of libraries has evolved and become more complex, extensive, and demanding, requiring increased attention and resources (Jan & Sheikh, 2014).

In university libraries, research and publication have taken on strategic importance due to the demand on academies to raise their grades via exploration as well as outstanding teaching (Riera Quintero et al., 2012; Si et al., 2019; Weaver and Richardson, 2021). (Adeniran, 2012; Fazal & Chakravarty 2019) highlighted that educational libraries are specifically intended to serve double primary purposes: supporting the academia curriculum and facilitating research within the academia community. These libraries face the challenge of striking a delicate balance to meet the various demands of various user groups within the academic institution.

Doctoral students, in particular, often rely on the library for essential services and resources to aid them in their research endeavors. Furthermore, libraries play an additional role as the "lab space" for research students in fields related to Arts, Humanities, and Social Sciences (AHSS), as noted by (Keller, 2015). This underscores the acute role that educational libraries play in both the educational and research missions of universities (Mahmood & Rafique, 2010).

In a dynamic research setting, scientists are under growing pressure to be abreast of the most recent advancements (Courtney & Dallis, 2015; Farooq et al., 2016; Sandy et al., 2020 and Joo & Schmidt 2021). Subsequently, main library and information science (LIS) connotations, including Research Libraries UK (Evidence Base and Associates, 2021) and the Association of College and Research Libraries (Connaway et al., 2017), have issued recommendations that emphasize the importance of university libraries offering RSS to accommodate to the desires of researchers.

The evolving landscape of higher education and research in Islamabad universities necessitates a dynamic shift in the role of libraries. This research article delves into the transformation of libraries in enhancing RSS, addressing the challenges and opportunities presented in this evolving context. As libraries adapt to rapid technological changes and

expanding information resources, their pivotal role in supporting academic studies and research endeavors becomes increasingly significant. The article explores the fluctuating expectations of library users, the influence of emerging technologies, and the ever-expanding role of libraries as catalysts for research innovation. By observing these critical aspects, we aim to provide a wide-ranging appreciative of in what way libraries are shaping the future of academic and research support services in Islamabad universities.

Problem statement:

The problem lies in the need to understand how libraries are adapting in Islamabad universities to meet the changing demands of research support. Rapid technological advancements and evolving academic requirements necessitate an investigation into whether libraries effectively allocate resources, integrate technology, and provide equitable access to information, ultimately impacting the quality of education and research output. In order to determine the state of research support services (RSS) offered in university libraries and to compare the findings with pertinent international studies, a qualitative survey of librarians in 175 university libraries across Pakistan was undertaken by (Awan et al., 2022) and author suggest that further study is possible with demanded RSS.

Objective:

The study addressed the following research objectives:

- Examining the existing RSS and demanded RSS both provided in the Islamabad universities Libraries.
- To analyze the integration of technology within libraries for research support.
- To investigate how library services affect the standard of research and instruction.
- To evaluate the equitable access to information provided by libraries in Islamabad universities.

This research concentrated on these research questions:

RQ1: Which academic libraries in Islamabad offer research support services to scholars?

RQ2: What is the difference between the RSS offered by Islamabad's academia libraries and those of international and national university libraries?

Literature Review:

According to (Padhan & Naidu 2022; Kampa et al., 2020) the foundation for society and worldwide advancement is "research." The study's findings have an impact on governments' financial, educational, industrial, and other welfare programs worldwide. Proper policy creation and implementation by government and commercial entity leadership is facilitated by accurate research. The main components of a nation's research infrastructure are its universities, research centers, and higher education institutions (HEIs). Through research and publications, universities and HEIs are required to generate and disseminate concepts, theories, equations, and standards. The nation's social and economic progress depends heavily on the intellectual and academic community conducting high-quality research.

With the support of libraries, every academic institution offers a platform for productive research. In order to boost faculty research output, institutional support for libraries is crucial (Budd, 2006; Vijesh et al., 2020; Ullah, A. & Usman, 2023). Research support, when backed by the institution, can improve productivity through services provided by libraries and help academic institutions move up the rankings. To increase research productivity, libraries must take the lead in mobilizing all of the knowledge that is readily available added by (Fazal & Chakravarty, 2019; Vijesh et al., 2020). Furthermore (Fazal, & Chakravarty, 2019) stressed that the term "research support" (RS) describes the giving of assistance and backing to researchers in order to further their research efforts. Particularly, this can take the form of services, but it can also take the form of workspace, relevant library resources, and friendly, informed library staff. A researcher is someone who is always flooded with information, demands for information, pressing deadlines, and research assignments to complete. Giving this particular demographic group the assistance they need is both predictable and essential. Disregarding their desires in favor of concentrating solely on assisting the educational component would be counter to the library's operation. AHSS scholars relayed on library space and resources for their research. It's likely, though, that they're ignoring the reality that the library actually provides a wide range. Furthermore, the majority of librarians keep their work private, which means that many academics are still unaware of the benefits of libraries.

Of the libraries that responded, almost 75% offer an institutional research repository. Previous studies have shown the importance of an institutional repository service for researchers (Thompson et al., 2015; Reed, 2015) and a more recent study (Joo & Schmidt, 2021). This is because institutional repositories allow libraries to give researchers access to the intelligent output of their parental institution. Furthermore, according to (Fernandez-Marcial et al., 2016), this type of service makes an institution's research outputs more accessible to the public on a national and international level.

(Leenaraj & Tuamsuk 2016) studied the variables influencing the Research Support Services (RSS) at Thailand's research university libraries. Therefore, they proposed setting up

university libraries with all the necessary infrastructure for RSS, including access to information technology and personnel with strong backgrounds in research, as well as a separate unit with personnel in charge of promoting research and space for providing appropriate services.

According to (Si et al., 2019) findings, 96.2% of libraries offer RSS, and they think that this is how academic libraries will develop in the future. A survey conducted by (Awan et al., 2022) that less than 60% universities in Pakistan providing highly specialized research support services. The findings of (Borrego & Anglada 2018) shown that 70% Spanish academic libraries provides research support services. (Okunoye & Okere, 2022) determined the research support services offered by a few public institutions in Southwest Nigeria and discovered that general services, training services, and publishing services account for up to 50% of the services produced.

Research design and Methods:

Using a survey approach, the study used a quantitative research design. The target population included all of Islamabad's university libraries. According to (Newman, 2000), the bull population refers to the particular group of cases that a scholar intends to investigate. To select a representative sample, random sampling technique was utilized, drawing from 26 public and private sector universities, including their respective sub-campuses. Data collection involved administering a structured questionnaire to the Library Professionals of each university library. The researcher obtained completed questionnaires from 35 libraries within the Islamabad region. A total of 141 responds, or 95% of the total, were considered appropriate for data analysis. Statistical Package for the Social Sciences (SPSS; 28) was utilized to calculate descriptive statistics. Additionally, present results were contrast with past research on Research support services from both an international and a national standpoint.

Results:

Participants in the survey were 62 (68.9%) men and 28 (31.1%) women. Meanwhile, Ninety-nine (69.7%) participants belonged to private universities also Forty-three (30.3%) respondents were from public universities. In terms of educational background, the data reveals that 62 individuals (43.7%) had a master's degree, 68 individuals (47.9%) an MS/M.Phil. degree, and 12 individuals (8.5%) a PhD. This indicates a wide range of educational backgrounds among the survey respondents, with a sizable percentage having postgraduate degrees.

When questioned with the present RSS offered within libraries. Availability of basic research support services, the participants revealed that, 74.14% of libraries offer basic RSS as shown in Table 1.

A survey was conducted by (Hart, 2011) which shows that 52 responses received that South African University of Technology library provides Inter Library Loan services. A significant

portion of university libraries provided Wi-Fi connectivity (n=85, 94.4%), access to the HEC digital library (n=84, 93.3%), and access to an e-book collection (n=82, 91.1%). Following closely were access to other online databases (n=76, 84.4%) mentioned by (Ali & Naveed, 2020).

In response to inquiries regarding advanced research support services, participants indicated that, as shown in Table 2, 72.3% of libraries provide advanced RSS.

(Padhan & Naidu, 2022) mentioned in their research paper that 29% of respondents showed that the libraries provides Research databases.

In response to a question concerning the availability of specialized fundamental research support services (RSS), participants reported that, as indicated in Table 3, 59.77% of libraries provide specialized RSS.

The findings revealed that 14 (87.5%) respondents offer document delivery service to researchers, while two (12.5%) do not by (Namuleme, & Kanzira, 2015).

Participants responded when asked on additional research support services by stating that, as Table 4 illustrates, 51.68% of libraries offer additional RSS.

| Statements | Frequency | Percentage (%) |
|---|------------------|-----------------------|
| Books on research (Print form) | 68 | 47.9 |
| Books on specific subject (Print form) | 131 | 92.3 |
| Information Technology (IT) Support | 88 | 62.0 |
| Reference services | 89 | 62.7 |
| Inter library loan and resource sharing | 139 | 97.9 |
| Access to HEC digital library | 112 | 78.9 |
| Current awareness service | 125 | 88.0 |
| Selective dissemination of information services | 90 | 63.4 |

Table No. 1 Providing basic research support services (N=141; numerous replies)

| Statements | Frequency | Percentage (%) |
|--|------------------|-----------------------|
| Research Databases | 136 | 95.8 |
| Data Management Services | 124 | 87.3 |
| Research Ethics and Compliance | 104 | 73.2 |
| Research Collaboration | 77 | 54.2 |
| Institutional research repository (IRR) | 113 | 79.6 |
| Reservation of study room for group discussion | 62 | 43.7 |

Table No.2 Providing advanced research support services (N=141; numerous replies)

| Statements | Frequency | Percentage (%) |
|--|------------------|-----------------------|
| Manual of research guidance | 99 | 69.7 |
| Document delivery services | 93 | 65.5 |
| Library portals-linked e-repositories in specific subject (books, thesis and journals) | 83 | 58.5 |
| Provide online scholarly communication facility to researchers with experts in the library | 111 | 78.2 |
| Research Support Tools | 36 | 25.4 |
| Access to Specialized Equipment and Facilities | 87 | 61.3 |

Table No.3 Providing specialized research support services (N=141; numerous replies)

| Statements | Frequency | Percentage (%) |
|----------------------------------|------------------|-----------------------|
| Research Design and Methodology | 89 | 62.7 |
| Online research support tutorial | 99 | 69.7 |

| | | |
|---|----|------|
| Research advisory desk for researchers | 52 | 36.6 |
| Statistical and Data Analysis | 80 | 56.3 |
| Research Outreach and Public Engagement | 47 | 33.1 |

Table No.4 Providing additional research support services (N=141; numerous replies)

Participants were surveyed regarding the demanded RSS offered in their respective libraries.

| Statement | Strongly agree % (f) | Agree % (f) | Neutral % (f) | Disagree % (f) | Strongly disagree % (f) |
|---|---------------------------------|------------------------|--------------------------|---------------------------|------------------------------------|
| Books on research (Print form) | 38.1 (54) | 26.8 (38) | 26.8 (38) | 4.2 (6) | 4.2 (6) |
| Books on specific subject (Print form) | 38.7 (55) | 51.4 (73) | 5.6 (8) | 4.2 (6) | 0 |
| Information Technology (IT) Support | 28.2 (40) | 54.2 (77) | 12.1 (17) | 5.6 (8) | 0 |
| Reference services | 56.3 (80) | 23.9 (34) | 15.2 (22) | 4.2 (6) | 0 |
| Inter library loan and resource sharing | 52.1 (74) | 45.8 (65) | 2.1 (3) | 0 | 0 |
| Access to HEC digital library | 50.7 (72) | 28.2 (40) | 12.7 (18) | 4.2 (6) | 4.2 (6) |
| Current awareness service | 52.8 (75) | 40.8 (58) | 6.3 (9) | 0 | 0 |
| Selective dissemination of information services | 37.3 (53) | 28.2 (40) | 26.8 (38) | 7.7 (11) | 0 |

Table No. 5 Providing basic research support services (N=141; numerous replies)

The respondents asked about the providing of basic RSS in the Islamabad universities libraries. A considerable majority "strongly agree" with the statement regarding Table No. 5's providing basic research support services is obvious from the total percentage of about 44.27%, 38.53 % agree with the statement, people with neutral options were the sum percentages 13.45%, disagree with the statement were 5.0167% and strongly disagree sum percentages were 1%.

| Statements | Strongly agree % (f) | Agree % (f) | Neutral % (f) | Disagree % (f) | Strongly disagree % (f) |
|--|---------------------------------|------------------------|--------------------------|---------------------------|------------------------------------|
| Research Databases | 43.1 (61) | 52.8 (75) | 4.2 (6) | 0 | 0 |
| Data Management Services | 47.9 (68) | 50.1 (71) | 2.1 (3) | 0 | 0 |
| Research Ethics and Compliance | 45.1 (64) | 41.5 (59) | 9.2 (13) | 4.2 (6) | 0 |
| Research Collaboration | 29.6 (42) | 43.7 (62) | 22.5 (32) | 4.2 (6) | 0 |
| Institutional research repository (IRR) | 65.5 (93) | 28.2 (40) | 2.1 (3) | 4.2 (6) | 0 |
| Reservation of study room for group discussion | 34.5 (49) | 16.2 (23) | 21.8 (31) | 27.5 (39) | 0 |

Table No.6 Providing advanced research support services (N=141; numerous replies)

Analyzing the participants replied, it is observed that 44.28% strongly agree and 38.75% agree with that their university library providing advanced research support services. 10.31% professionals neutral on this statement and only 8.02% disagree with this statement as shown in Table No.6.

| Statements | Strongly agree % (f) | Agree % (f) | Neutral % (f) | Disagree % (f) | Strongly disagree % (f) |
|--|---------------------------------|------------------------|--------------------------|---------------------------|------------------------------------|
| Manual of research guidance | 0 | 0 | 0 | 57.7 (82) | 42.3 (60) |
| Document delivery services | 37.3 (53) | 28.2 (40) | 26.8 (38) | 7.7 (11) | 0 |
| Library portals-linked e-repositories in specific subject (books, thesis and journals) | 29.6 (42) | 28.9 (41) | 23.9 (34) | 17.6 (25) | 0 |
| Provide online scholarly communication facility to researchers with experts in the library | 20.4 (29) | 55.6 (79) | 15.5 (22) | 8.5 (12) | 0 |
| Research Support Tools | 26.1 (37) | 33.1 (47) | 19.7 (28) | 14.1 (20) | 7.1 (10) |
| Access to Specialized Equipment and Facilities | 19.7 (28) | 44.4 (63) | 15.5 (22) | 17.6 (25) | 2.8 (4) |

Table No.7 Providing specialized research support services (N=141; numerous replies)

The findings revealed that out of the total responses, 22.18 percent of sum percentages Library Professionals replied that they strongly agree providing specialized research support services.31.7 percent agree to this statement. 16.9 percent of Library professionals remain neutral on this statement. 20.53 And 8.7 percent replied disagree and strongly disagree respectively.

| Statements | Strongly agree % (f) | Agree % (f) | Neutral % (f) | Disagree % (f) | Strongly disagree % (f) |
|----------------------------------|---------------------------------|------------------------|--------------------------|---------------------------|------------------------------------|
| Research Design and Methodology | 66.2 (94) | 33.8 (48) | 0 | 0 | 0 |
| Online research support tutorial | 28.9 | 35.9 | 22.5 | 12.7 | 0 |

| | (41) | (51) | (32) | (18) | |
|---|--------------|--------------|--------------|--------------|------------|
| Research advisory desk for researchers | 12.7 (18) | 41.5 (59) | 21.1 (30) | 24.6 (35) | 0 |
| Statistical and Data Analysis | 36.6 (52) | 26.8 (38) | 20.4 (29) | 3.4 (19) | 2.8 (4) |
| Research Outreach and Public Engagement | 27.5 (39) | 38.1 (54) | 20.4 (29) | 11.3 (16) | 2.8 (4) |

Table No.8 Providing additional research support services (N=141; numerous replies)

The returned responses found that the highest majority 34.38% strongly agreed with the asked question. 35.22 percent replied with agreed statement. 16.88 percent respondents remain neutral in this case. 10.4 And 1.12 percent of the respondents disagrees and strongly disagrees respectively on this statement.

Discussion:

The goal of this research was to investigate the present RSS and demanded RSS both delivered in the Islamabad universities Libraries. The findings demonstrate that while all of the responding libraries offer certain services, the range and caliber of these offerings vary significantly. The findings of this survey showed that most of the libraries provided books on research and special subject and also provided reference services with IT support as basic level of RSS. The position of advance level of RSS is also much better; these libraries provided Research database, data management services and Institutional research repository (IRR).

As shown in the Table No. 3 that there is almost every respondent response with disagree and strongly disagree with the statement “Manual for research guidance”. This results shows that Manual of research guidance is not providing in these responding libraries in Islamabad.

Research design and methodology is proving by all the responding libraries according to Table No.8. Additional RSS also includes online research support tutorial, Research advisory desk for researchers and Research Outreach and Public Engagement.

The study concludes that the respondents had a positive view of the RSS offered at the institutions' libraries in Islamabad, as evidenced by the high levels of agreement and satisfaction observed in all service categories. These findings highlight how crucial it is to keep supporting and improving academic libraries' research support infrastructure in order to meet the evolving requirements of researchers and scholars.

Limitation of this Study and Future direction:

The fact that all study participants were from universities in Islamabad may limit the practical significance of the findings to other areas or kinds of institutions. Different university campuses may have distinct resources, academic cultures, and student demographics that impact how research support services are perceived. Because the study relied on respondents' self-reported data, response bias may have been announced. It is probable that the responses provided by the participants were socially acceptable or may not accurately reflect their true opinions and experiences with research support services.

The primary goal of the investigation was to analyze the responses quantitatively by calculating percentages of agreement, disagreement, and neutrality. However, a more thorough qualitative analysis—for example, using interviews or open-ended questions—might have yielded more insightful information on the factors influencing participants' opinions of research support services.

Qualitative method may be used in future studies to investigate the fundamental issues affecting participants' opinions of research support services. Focus groups and qualitative interviews may reveal subtle insights and offer a more thorough comprehension of participants' experiences. Including participants from a wide range of universities, inclusive those outside Islamabad, and spanning different academic fields, can improve the generalizability of results and present a more all-encompassing understanding of research support requirements and preferences.

Researchers can receive better support and an improved understanding of research support services if scholars and library professionals address these limitations and consider future research prospects.

Conclusion:

This study on the position of Libraries in Enhancing RSS presented the rapidly changing journey of libraries in Pakistan's capital city and their important position in supporting research activities within the academic community. The findings and insights acquired in this study provide a complete understanding of the evolving dynamics in academic libraries, which is critical in the increasingly changing environment of higher education.

According to our findings, libraries in Islamabad universities are no longer static warehouses of books, but rather dynamic hubs of digital resources, collaborative spaces, and cutting-edge technology. They have evolved into proactive collaborators in the research procedure, offering a variety of RSS to meet the changing demands of scholars and researchers. This transition, driven by the digital era and a need for more efficient and accessible research support, has had a significant impact on the research culture in these institutions.

Furthermore, the study emphasizes the need of recognizing librarians' shifting responsibilities as vital guides, facilitators, and educators in the research journey. They are key in assisting scholars in accessing the complex world of digital information and successfully utilizing the numerous resources accessible.

As a result, the study's findings have far-reaching ramifications for universities in Islamabad and higher education institutions worldwide. They underline the importance of colleges investing in updating their library infrastructure and training librarians to suit the changing needs of scholars. Libraries' research services have a direct influence on the excellence and relevance of educational output, making them critical contributors to research program success.

To summarize, this study represents a larger movement in the higher education scenario, in which libraries are shifting their role and actively affecting the research environment. This research is a helpful resource for academic administrators, librarians, and policymakers, leading them through the process of adapting to these changes and ensuring that libraries remain at the forefront of supporting and advancing research in Islamabad and beyond.

Recommendations:

Some recommendations are suggested by authors to improve research support services in Islamabad universities libraries:

1. Universities libraries should provide manual on research guidance to scholars.
2. Libraries should provide strong level of IT infrastructure to facilitate researchers.
3. Libraries should provide research assistance.
4. Libraries should provide research tutorials on their webpage.
5. Libraries should provide reference desk services to their students.
6. HEC needs to take the lead for establishing the RSS section's infrastructure within Islamabad university libraries.
7. Library professionals should research skills to provide assistance in research support services.
8. Universities can monitor and enhance the quality of research support services on a constant basis by putting in place frequent methods for assessment and feedback. User feedback forms, focus groups, and surveys can all offer insightful information on areas that want improvement and user experiences.

9. Universities can better understand the changing demands of researchers and adjust services by working together with stakeholders like faculty, graduate students, and research institutes. Developing alliances with other academic departments and outside groups might enhance the scope of available support services.
10. Opportunities for ongoing professional development are crucial for library employees to guarantee they possess the knowledge and abilities needed to deliver excellent research support services. Staff members can be better equipped to support researchers by participating in training programs on new technology, research methodology, and scholarly communication trends.

Reference:

- Adeniran, P. (2011). User satisfaction with academic libraries services: Academic staff and students perspectives. *International journal of library and information science*, 3(10), 209-216.
- Ali, N., & Naveed, M. A. (2020). Research support resources and services in university libraries of Pakistan: A situational analysis. *Pakistan Library Information Science Journal*, 51, 57-63.
- Awan, M. H., Richardson, J., & Ahmed, S. (2022). Current status of research support services in university libraries of Pakistan. *Digital Library Perspectives*, 38(4), 412-428.
- Borrego, Á., & Anglada, L. (2018). Research support services in Spanish academic libraries: An analysis of their strategic plans and of an opinion survey administered to their directors. *Publications*, 6(4), 48.
- Budd, J. M. (2006). Faculty publishing productivity: Comparisons over time. *College & Research Libraries*, 67(3), 230-239.
- Connaway, L. S., Harvey, W., Kitzie, V., & Mikitish, S. (2017). Academic library impact: Improving practice and essential areas to research.
- Courtney, A., & Dallis, D. (2015). Models for partnering with faculty and supporting digital scholarship. In *Supporting Digital Humanities for Knowledge Acquisition in Modern Libraries* (pp. 86-106). IGI Global.
- Farooq, M. U., Ullah, A., Iqbal, M., & Hussain, A. (2016). Current and required competencies of university librarians in Pakistan. *Library Management*, 37(8/9), 410-425.
- Fazal, F. A., & Chakravarty, R. (2019). Role of library in research support: a study of Bharathiar University. *Library Philosophy and Practice*, 1-11.

- Fernández Marcial, V., Costa, L. M., & González-Solar, L. (2016). Top universities, top libraries: Do research services in academic libraries contribute to university output?. In *Library Leadership in a Sea of Change, 37 IATUL Conference, 5-9 June 2016, Dalhousie University (Halifax, Nova Scotia, Canada)*. Purdue e-Pubs.
- Forsman, M., Ndinoshiho, J. M., & Poteri, E. (2012). *Research support services of University Libraries*. Tampere University Press.
- Hart, G. (2011). The role of an academic library in research: researchers' perspectives at a south african university of technology. *South African Journal of Libraries and Information Science*, 77(1), 37-50.
- Jan, S. U., & Sheikh, R. A. (2014). Impact of emerging technologies on university libraries of Pakistan. *International Journal of Digital Library Services*, 4(3), 201-208.
- Joo, S., & Schmidt, G. M. (2021). Research data services from the perspective of academic librarians. *Digital Library Perspectives*, 37(3), 242-256.
- Kampa, R. K., Padhan, D. K., & Ahmad, F. (2020). Perceptions of Students and Researchers of Food Technology towards Plagiarism: A Case Study. *DESIDOC Journal of Library & Information Technology*, 40(6).
- Keller, A. (2015). Research support in Australian university libraries: an outsider view. *Australian Academic & Research Libraries*, 46(2), 73-85.
- Leenaraj, B., & Tuamsuk, K. (2016). Factors Affecting Research Support Services in the Research University Libraries in Thailand. *Journal of Library & Information Science Research*, 11(1).
- Mahmood, K., & Shafique, F. (2010). Changing research scenario in Pakistan and demand for research qualified LIS professionals. *Library Review*, 59(4), 291-303.
- Newman, K. L. (2000). Organizational transformation during institutional upheaval. *Academy of management review*, 25(3), 602-619.
- Okunoye, O. O., & Okere, O. O. (2022). An assessment of the extent of provision of research support services in public university libraries in Southwest Nigeria. *Ghana Library Journal*, 27(1), 70-79.
- Padhan, D. K., & Naidu, G. H. (2022). *Research Support Services in Academic Libraries*.
- Reed, R. B. (2015). Diving into data: Planning a research data management event. *Journal of escience Librarianship*, 4(1).

- Riera Quintero, C., Padrós-Cuxart, R., & Zuñiga Ruiz, A. (2012). Research librarians in a virtual environment: new skills, new services.
- Sandy, H. M., Million, A. J., & Hudson-Vitale, C. (2020). Innovating support for research: the coalescence of scholarly communication? *College & Research Libraries*, 81(2), 193.
- Sheikh, A. (2015). Development of information commons in university libraries of Pakistan: The current scenario. *The Journal of Academic Librarianship*, 41(2), 130-139.
- Si, L., Zeng, Y., Guo, S., & Zhuang, X. (2019). Investigation and analysis of research support services in academic libraries. *The Electronic Library*, 37(2), 281-301.
- Si, L., Zeng, Y., Guo, S., & Zhuang, X. (2019). Investigation and analysis of research support services in academic libraries. *The Electronic Library*, 37(2), 281-301.
- Thompson, E. S., Amuda, J. M., & Akeriwe, M. L. (2015). Twenty years of academic librarianship in Ghana: the university for development studies library's experience. *UDS International Journal of Development*, 1(1), 59-70.
- Ullah, A., & Usman, M. (2023). Role of Libraries in Ensuring Quality Education at Higher Education Institutions: A Perspective of Pakistan. *Inverge Journal of Social Sciences*, 2(4), 13-22.
- Ullah, A., Usman, M., & Khan, M. K. (2023). International Journal of Social Science Exceptional Research.
- Vijesh, P. V., Srilakshmi, B., & Ganesan, P. (2020). Research Support Skills For Librarians In The Digital Environment. *Webology (ISSN: 1735-188X)*, 17(1).
- Weaver, B., & Richardson, J. (2021). Reinventing library research support services at Griffith University. In *Cases on Research Support Services in Academic Libraries* (pp. 267-289). IGI Global.