

ACADEMIC LIBRARIANS' ATTITUDE TOWARDS RESEARCH SUPPORT SERVICES IN UNIVERSITY LIBRARIES IN DELTA STATE, NIGERIA

Christian Mamus Igbuku

Delta State University, Abraka

Esoswo Francisa Ogbomo

Delta State University, Abraka

Abstract

This study investigated academic librarians' attitudes towards research support services in university libraries in Delta State, Nigeria. Quantitative research methodology and correlational research design and administering a self-developed questionnaire to 97 librarians across ten university libraries. Data analysis involved statistical measures such as frequencies, mean, Standard Deviation (SD), and Pearson's Product Moment Correlation (PPMC). Findings revealed the multifaceted nature of research support services provided by these libraries, encompassing dedicated spaces, publication services, current awareness, and advisory services. Notably, librarians demonstrated a positive orientation towards these services, highlighting their crucial role in fostering research endeavours. The analysis underscored a pronounced correlation between librarians' attitudes and the delivery of research support services, emphasizing their pivotal role in enhancing the research environment. This research sheds light on the current state of research support services in Delta State, offering insights into challenges and opportunities. In conclusion, librarians in university libraries in Delta State demonstrate a strong capability and positive attitude in providing research support services. Their competencies significantly influence the effectiveness of these services. Recommendations include targeted professional development programs for librarians to enhance their skills in research support services, ensuring their ability to address evolving research needs. Furthermore, promoting interdisciplinary collaborations among librarians, faculty, and researchers is essential to optimize research support structures within university libraries. By fostering synergistic approaches, comprehensive research support can be achieved, contributing to the ongoing discourse on optimizing research support structures within university libraries and laying the groundwork for future improvements.

Keywords: Attitude, Research Support Services, Librarians, University Libraries, Delta State.

Introduction

Modern academic libraries function as repositories of information and knowledge with the primary aim of disseminating this wealth of information to the academic community. They play a crucial role in supporting the institution's curriculum and facilitating the research endeavours of university lecturers and students (Mmaphuti et al., 2022). According to Auckland (2012, as cited in Hussain & Rafiq, 2023), university libraries traditionally serve three key functions: supporting teaching, learning, and research. While teaching and learning are fundamental, research is paramount for the advancement of institutions of learning, thus receiving significant emphasis today. Therefore, university libraries bear the responsibility of

providing effective information services that not only enhance teaching and learning but also foster research within the university community. In response to the advent of Information and Communication Technologies (ICTs), academic libraries have undergone a paradigm shift in the types of services they offer. One notable addition to these services is research support services, which have evolved in response to changes in the research landscape (Adeniran, 2019). To adapt to this dynamic environment, libraries have embraced innovative approaches to support researchers, including collaboration across library and departmental boundaries.

Research support entails proactive involvement from librarians in assisting researchers throughout their research endeavours (Parker, 2012, as cited in Pasipamire & Hoskins, 2019). It encompasses a range of services, tools, and facilities aimed at facilitating various research tasks (Delgado-Vázquez & López-Catalán, 2021). The provision of such support services hinges on several factors, one of which is the attitude of librarians. According to Ahmad (2019), the attitudes of librarians toward the daily operations of libraries are crucial in ensuring that library resources and services are accessed and utilized effectively by users. Attitude, as defined by Ahmad (2019), encompasses a constellation of beliefs, behaviours, desires, and internal processes that influence one's behaviour consistently toward a particular class of objects or situations. A positive attitude among librarians can significantly contribute to the successful provision of library services, thereby enabling the university library to fulfill the educational, recreational, and research needs of its clientele in alignment with its goals and objectives. Academic libraries in Delta State offer a variety of research support services designed to assist both lecturers and students in their scholarly endeavours. These services include personalized research consultations, where librarians help researchers develop strategies, identify resources, and address specific research challenges. They also provide information literacy training through workshops and instructional sessions aimed at enhancing research skills, effective database usage, and citation management.

Additionally, these libraries grant access to a wide range of digital resources, such as academic databases, e-journals, and e-books, to meet the diverse research needs of their users. They offer data management support, guiding researchers on data collection, organization, and preservation, including the use of institutional repositories for long-term data storage. To keep the academic community informed, current awareness services provide alerts and updates on new research, publications, and relevant developments in various fields. Interlibrary loan services are also available, facilitating access to materials outside the local library's collection through collaborations with other libraries.

Overall, these research support services are delivered by a team of proficient librarians committed to fostering a supportive and resourceful research environment within Delta State's academic institutions. This study seeks to investigate librarians' attitudes toward research support services in university libraries in Delta State, Nigeria.

Research Questions

The following research questions guided the study.

1. What are the research support services provided in Delta State university libraries?

2. What is the attitude of academic librarians towards research support services in university libraries university libraries?

Research Hypothesis

One null hypothesis was formulated and tested at 0.05 level of significance.

1. There is no significant relationship between librarians' attitudes and research support services in Delta State University libraries.

Literature Review

Hoffman (2016) defines research support as the services provided by a library to bolster scholarly activity and research within its parent institution. Bent (2016) elaborates on this concept, stating that research support encompasses librarian interventions in various research-related activities, such as recommending funding opportunities, conducting literature searches, and assisting with data management. A more recent definition by Fischer et al. (2021) characterizes research support as a suite of services offered by the library to enable academic staff to dedicate more time to their research. This definition highlights the importance of alleviating researchers' burdens by assisting with tasks tangential to their primary research activities, such as searching for scholarly information, navigating the publication process, and managing and disseminating research findings. Ranjan (2023) adds that research support services may also include current awareness services, literature search services, and selective dissemination of information services, among others.

In contemporary academic settings, research support has become a prominent focus for academic libraries in developed countries, with many libraries adapting to meet the evolving research needs of scholars. Academic libraries bear the responsibility of providing services that facilitate research activities, as emphasized by Das and Banerjee (2021). Librarians play a pivotal role in this endeavor, offering services such as copyright advisory and anti-plagiarism assistance, which are increasingly vital in today's academic landscape. Additionally, libraries utilize tools such as anti-plagiarism and reference management software to further aid researchers in their endeavors.

Attitude, as described by Ahmed (2019), refers to the actions or behaviors displayed by individuals toward something or during the course of an activity. In the context of libraries, attitude pertains to librarians' behaviors regarding the needs of their users (Oden & Owolabi, 2021). Librarian attitudes encompass inclinations, feelings, prejudices, biases, preconceived notions, fears, and convictions related to library services, as articulated by Popoola (2008, as cited in Inyang & Otun, 2021). The variation in attitudes among individuals may stem from differences in upbringing, experiences, education, skills, levels of exposure, government policies, organizational policies, and other factors. Furthermore, attitudes are dynamic and subject to change, with new attitudes emerging and existing ones evolving in response to new experiences and ideas (Adesina, 2013, as cited in Oden & Owolabi, 2021). According to McLeod (2020), attitudes may be characterised by several components, such as:

1. **Affective Component:** this represents feelings/emotions about an object.

2. **Behavioral (or Conative) Component:** involves how attitude can influence action or behaviour.
3. **Cognitive component:** involves belief/knowledge about an object.

Oden and Owolabi (2021) define library staff attitude as the conduct exhibited by library personnel when assisting users in finding information resources to meet their informational needs. Abubakar (2013, as cited in Oden & Owolabi, 2021) emphasizes the pivotal role of a librarian's attitude in ensuring effective service delivery, as it determines the accessibility and utilization of library resources, thereby encouraging repeat patronage based on positive experiences. Similarly, Usman (2013, as cited in Michael and Olayemi, 2023) underscores how librarians' attitudes towards key library activities directly and indirectly shape their efforts in providing support and services to library users.

Consequently, attitude stands as a prerequisite for achievement. While some individuals' attitudes drive them to confront challenges, surmount obstacles, and achieve their goals, others' attitudes act as impediments, hindering their acceptance of innovation and change in their personal and professional lives (Ramzan et al., 2021). Ramzan *et al.* further highlight that individuals with positive attitudes are motivated to seize new opportunities, set fresh goals, and strive for new heights. Numerous library scholars, including Otieno *et al.* (2015), Aiyebelehin et al. (2017), and Oden and Owolabi (2021), concur that librarians' attitudes significantly impact the delivery of various services in the library. Likewise, Eromosele and Ugwulebo (2022) assert that librarian attitudes play a crucial role in determining how resource sharing enhances greater accessibility of library information resources and services, thereby aiding in fulfilling the educational, recreational, and research needs of university library clientele.

Several studies have delved into librarians' attitudes regarding research support services. Evidence from Otieno et al.'s (2015) study indicates that library users require the right attitude from librarians to receive information services without discrimination. Moreover, Oden and Owolabi's (2021) research on the influence of staff attitude toward service rendering in academic libraries in Ogun State, Nigeria, revealed a significant correlation between attitude and service delivery effectiveness ($R^2 = 0.253$, $\beta = 0.503$, $t = 18.411$, $p < 0.05$). In another study, Akpom et al. (2020) observed a positive attitude among librarians toward the provision of corporate social responsibility (CSR) initiatives in their libraries. Additionally, Ahmad (2019) investigated the attitude of academic librarians toward resource-sharing in federal university libraries and found that librarians exhibited a positive attitude toward resource-sharing activities. The literature review examined librarians' competencies, attitudes, and research support services, noting that most studies focused on librarians from other countries and their skill acquisition. The review primarily captured literature on skills and librarians' willingness to acquire these competencies, but not specifically on librarians' competencies in providing research support services in academic libraries. Most empirical works cited were from outside Nigeria, and the few Nigerian studies did not address librarians' competencies and attitudes towards research support services. Additionally, very few studies focused on research support services in academic libraries, with most concentrating on librarians' attitudes towards ICT use or other library services. This study fills a gap in the literature by addressing these specific issues.

Methodology

The study is a correlational research design. This allowed the researcher to explore the current state of librarians' attitudes towards research support services. The population is made up of 97 academic librarians and this number constituted the sample size for the study because of the small size. A self-designed questionnaire made up of three sections was used to collect data for the study. The questionnaire was personally distributed to all academic librarians and retrieved on the spot and this produced a response rate of 97(100%). Collected data was analysed using frequencies, statistical mean (\bar{X}) and Standard Deviation (SD) with the criterion Mean set at 2.50. The Hypothesis was tested with Pearson's Product Moment Correlation (PPMC) at 0.05 level of significance.

Results

This section presents the study's findings, including the response rate from surveyed university librarians, their demographic characteristics, an analysis of the research support services provided, and librarians' attitudes towards these services. Additionally, it includes a hypothesis test examining the relationship between librarians' attitudes and the extent of research support services provided.

Table 1: Questionnaire Response Rate

S/NO	Names of University Libraries	No of Librarians
1.	Admiralty University of Nigeria Library, Ibusa	8
2.	Delta State University Library, Abraka	26
3.	Dennis Osadebe University Library, Asaba	6
4.	Edwin Clark University Library Kiagbodo	6
5.	Federal University of Petroleum Resources Library, Ogbomro	16
6.	Michael and Cecilia Ibru University Library, Agbara-Otor	7
7.	Nigerian Maritime University Library, Okerenkoko	6
8.	Novena University Library, Ogume	8
9.	University of Delta Library, Agbor	5
10.	Western Delta University Library, Oghara	9
Total		97

Source: University Librarians Offices from the Various University Libraries, 2023

Based on Table 1, the distribution of surveyed academic librarians across various university academic libraries is as follows: 26 academic librarians were surveyed from Delta State University Library, Abraka; 16 from Federal University of Petroleum Resources Library, Ogbomro; 9 from Western Delta University Library, Oghara; 8 from Admiralty University of Nigeria Library, Ibusa; 7 from Michael and Cecilia Ibru University Library, Agbara-Otor; and 6 from each of the following: Dennis Osadebe University Library, Asaba; Edwin Clark University Library, Kiagbodo; and Nigerian Maritime University Library, Okerenkoko. Moreover, 5 librarians were surveyed from University of Delta Library, Agbor.

Table 2: Research Support Services

Research Support Services	HE	ME	LE	NE	\bar{X}	SD
Resource sharing	49	25	12	1	3.15	1.03
Document delivery services	48	23	2	24	2.98	1.23
Open access publishing	38	25	12	22	2.81	1.18
Selective dissemination of information	26	24	23	24	2.54	1.14
Current awareness services	59	12	23	3	3.31	0.94
Dedicated research spaces (for PG students)	60	34	0	3	3.56	0.66
Information literacy programmes	62	2	11	22	3.07	1.29
Bibliometrics services	27	45	12	13	2.89	0.97
Systematic reviews services	28	23	12	34	2.46	1.24
Research advisory desk	44	34	12	7	3.19	0.92
New arrival alerts to researchers	26	34	13	24	2.64	1.13
Library portals links to e-repositories	37	44	12	4	3.18	0.80
Reference and Information services	47	23	11	16	3.04	1.13
Internet service	37	23	32	5	2.95	0.96
Training workshop on database use	38	34	13	12	3.01	1.02
24-hour library circulation services	25	33	33	6	2.29	1.27
Scanning, printing and photocopying services	45	34	16	2	3.26	0.81
Institutional repository access	29	34	23	11	2.84	0.99
Data management services	26	34	34	3	2.86	0.85
Research evaluation services	44	33	11	9	3.15	0.96
Writing and publishing advisory services	43	45	4	5	3.30	0.78
Research administration services	36	34	18	9	3.00	0.97
Information search for researchers	46	23	15	13	3.05	1.08
Provision of software and hardware tools for research	37	24	25	11	2.90	1.05
Research publication and outreach services	53	23	16	5	3.28	0.92
Publication (hosting of journals, research evaluation/registration, copyright)	37	32	13	15	2.94	1.07
Research workflow (methods, tools, data management/storage, virtual research environments)	46	22	21	8	3.09	1.01
Grand Mean					3.01	0.95

Table 2 shows the research support services provided. With an aggregate mean of 3.01(Std. = .95), it shows that most of the services listed are rendered in these libraries. The most common of these services is, dedicated research spaces (for PG students) 3.56 (Std=0.66), next to it is, delivery of current awareness services (3.31) and writing and publishing advisory services (3.30). the least most rendered services are 24-hour circulation service (=2.29) and systematic reviews services (=2.46) recorded low extent of delivery.

Research Question 2: What is the attitude of librarians towards research support services?

Table 3: Attitude of Librarians towards Research Support Services

Attitude Scale	SA	A	D	SD	\bar{X}	SD
Confident working without constant supervision	45	24	16	12	3.05	1.06
Favorably disposed to taking a positive dimension of things	61	16	18	2	3.40	0.86
Willing to contribute my quota in my library	52	18	14	13	3.12	1.10
That information resource sharing is a tool used to provide effective research support service	57	26	11	3	3.41	0.81
That information research support services will increase library value	60	21	8	8	3.37	0.95
Willing to work with researchers to deliver services that support their research	65	18	12	2	3.51	0.79
Willing to join hands with other libraries to facilitate resource-sharing activities that promote research support services	55	21	10	11	3.24	1.04
Prepared to learn new skills related to research support services	57	19	17	4	3.33	0.91
Nonchalant attitude towards research support services	6	9	51	31	1.90	0.81
That rendering research support services are a waste of time because there are no adequate facilities to render it in my library	10	8	54	25	2.03	0.87
That researchers don't need to be spoon fed by rendering support services	12	13	33	39	1.98	1.02
Research support services are important to my library because it will help to meet the current and future needs of my library	66	15	12	4	3.47	0.87
Grand mean					2.98	.848

Table 3 presents the attitude of librarians towards research support services delivery. A grand mean of 2.98 (Std. = .848) shows a positive attitude among the librarians in university libraries towards research support services. Most of the statements recorded positive attitudes which are higher than the criterion mean of 2.50 for instance, respondents agree that research support services are important because it will help to meet the current and future needs of their library 3.47 (Std.=0.87). Also, only negatively worded items such as librarian' nonchalant attitude towards research support services (\bar{X} =1.90), feeling of no adequate facilities to render services (\bar{X} =2.03), and feeling that researchers do not need to be spoon-fed (\bar{X} =1.98) recorded low. It can thus be concluded that the attitude of librarians towards research support services is positive.

Research Hypothesis: There is no significant relationship between librarians' attitudes and research support services in university libraries.

Table 4: Relationship Between Librarians' Attitude and Research Support Services

		Attitude of Librarians towards Research Support Services	Extent of Librarians' Research Support Services
Attitudes of Librarians towards Research Support Services	Pearson Correlation	1	.979**
	Sig. (2-tailed)		.000
	N	97	97
Extent of Librarians' Research Support Services	Pearson Correlation	.979**	1
	Sig. (2-tailed)	.000	
	N	97	97

Table 4 shows a Pearson correlation coefficient $r (= .979)$. This is an indication of high positive relationship ($P=98\%$). The significant value (Sig.2-tailed) of 0.000, is less than 0.05, hence, it can be concluded that there is a significant relationship between the librarian's attitudes and research support services. The null hypothesis is therefore rejected.

Discussion of Results

University libraries in Delta State provide various research support services, including dedicated research spaces, research publication and outreach services, current awareness services, and research advisory. These services are deemed crucial for assisting researchers and fostering research output within universities. This finding aligns with a recent report by Ali and Naveed (2020), which found that university libraries in Punjab, India, similarly offer research services such as access to online and printed information resources, conducive learning environments, current awareness services, selective dissemination of information, and information and research literacy instructions. Additionally, Adeniran (2019) reported that libraries at Redeemer's University and the Nigeria Natural Medicine Development Agency in Nigeria offer research support services such as Internet services, print resources, and e-resources, although services like 24-hour circulation and systematic reviews are not yet provided. Given the prominence of systematic reviews in contemporary research, librarians should acquaint themselves with rendering such research support services.

Academic Librarians in university libraries exhibit a positive attitude towards research support services, as evidenced by the study results. This finding resonates with Akpom et al.'s (2020) report that librarians displayed a positive attitude towards providing corporate social responsibility initiatives, as well as Ahmad's (2019) findings regarding academic librarians' positive attitude towards resource sharing activities in federal university libraries in Nigeria. Conversely, this result contrasts with earlier findings by authors like Kumar (2016) and Kukko (2013, as cited in Basit-Memon, 2018), who identified negative attitudes such as resistance to change and selfishness towards resource sharing as obstacles to modern library service delivery. Despite these challenges, librarians demonstrate openness to new services, a willingness to

contribute to library improvement, collaboration with researchers and other libraries, and a readiness to acquire new skills—all of which are geared towards delivering effective research support services.

The study reveals a strong positive relationship between librarians' attitudes and research support services, indicating that librarians' positive disposition towards addressing users' research support needs enhances service delivery effectiveness. This finding echoes the observations of Oden and Owolabi (2021) regarding the impact of librarians' attitudes on service delivery and Eromosele and Ugwulebo's (2022) assertion that librarian attitudes determine the provision of support services to meet the research needs of university library clientele. Thus, the study underscores the importance of a positive librarian attitude in facilitating effective research support services.

Conclusion and Recommendations

As modern library services, including research support services, continue to evolve, librarians in university libraries across Delta State are actively engaged in supporting the research output of their parent institutions. They are providing a range of services aimed at facilitating and enhancing research activities. With a positive disposition among these librarians towards these services, there is a belief that researchers will be encouraged to dedicate ample time to their research endeavours within university libraries in Delta State. This positive environment and support system fostered by librarians are expected to contribute significantly to the advancement of research and scholarship within the academic community. Based on the findings of the study, the following recommendations are proposed: Library management should strive to integrate additional modern services into their repertoire of research support services. By doing so, libraries can enhance their relevance within the academic community. Incorporating emerging technologies, expanding access to scholarly resources, and offering specialized research assistance are examples of modern services that can further support researchers' needs and contribute to the advancement of scholarly endeavours. Librarians should maintain positive attitudes towards their roles and responsibilities. A positive attitude not only fosters a welcoming and supportive environment for library users but also facilitates effective service delivery. Librarians should strive to uphold professionalism, responsiveness, and adaptability in their interactions with users, thereby enhancing user satisfaction and engagement with library services. Continual efforts to sustain positive attitudes will contribute to the overall success and effectiveness of research support services provided by university libraries.

References

- Adeniran, O.P. (2019). Academic library research support services: a review of redeemer's university and the Nigeria Natural Medicine Development Agency's research activities. *Library Philosophy and Practice (e-journal)*, 2753. <https://digitalcommons.unl.edu/libphilprac/2753>
- Adeniran, P. (2020). User satisfaction with academic libraries services: Academic staff and students' perspectives. *African Journal of Library and Information Science*, 6(3). www.internationalscholarsjournals.org
- Ahmad, I. I. (2019). Attitude of academic librarians toward resource sharing activities in the federal university libraries in Nigeria. *International Journal of Information Processing and Communication (IJIPC)*, 7(1), 72-82.
- Akpom, C. C., Onyam, I. D., & Benson, O.V. (2020). Attitude of librarians' towards provision of corporate social responsibility initiatives in state university libraries in south Nigeria. *Library Philosophy and Practice (e-journal)*, 4130. <https://digitalcommons.unl.edu/libphilprac/4130>
- Ali, N., & Naveed, M.A. (2020). Research support resources and services in university libraries of Pakistan: A situational analysis. *PLISJ*, 51 (ICEIL-II Issue), 1-9. https://www.academia.edu/44579726/Research_support_resources_and_services_in_university_libraries_of_Pakistan_A_situational_analysis
- Bent, M. J. (2016). *Practical tips for facilitating research*. Facet Publishing: London.
- Basit-Memon, M.A., Mirani, M.A. & Bashir, S. (2018). A qualitative research on individual barriers to knowledge sharing: Causes and remedies a health-care sector based study. *BT Journal of Business Studies*, 14(2), 77-89. <http://ibtjbs.ilmauniversity.edu.pk/journal/jbs/14.2/7.pdf>
- Das, A., & Banerjee, S. (2021). Optimising research support services through libraries: A review of practices. *Library Philosophy and Practice (e-journal)*, 5515. <https://digitalcommons.unl.edu/libphilprac/5515>.
- Delgado-Vázquez, A. M., & López-Catalán, B. (2021). From information literacy to digital competence. In J. Gómez Galán (Ed.). *Innovation and ICT in Education*. (pp11), Taylor and Francis.
- Eromosele, P.O., & Ugwulebo, J.E. (2022). Librarians' attitude towards information resource sharing in federal university libraries in North Central, Nigeria. *Library Philosophy and Practice (e-journal)*, 7314. <https://digitalcommons.unl.edu/libphilprac/7314>
- Fischer, M., Halm, T., & Koltay, T. (2021). Gap in the wall: A writing center, offering complex research support. In V. Fernández-Marcial (Ed.). (Ed.). *Cases on Research Support Services in Academic Libraries*. (pp. 344-366). DOI: 10.4018/978-1-7998-4546-1.ch005.

- Hoffman, S. (2016). *Dynamic research support in academic libraries*. Facet Publishing, Cambridge. <https://doi.org/10.29085/9781783301225>.
- Hussain, A., & Rafiq, M. (2023). Provision of research support services across the research lifecycle in university libraries. *Journal of Librarianship and Information Science*, <https://doi.org/10.1177/09610006231207661>
- Inyang, O., & Otun, M.O. (2021). Information on effective current awareness services display for utilization of resources in tertiary institutions libraries in Cross River South metropolis. *Library Philosophy and Practice (e-journal)*, 6174. <https://digitalcommons.unl.edu/libphilprac/6174>
- Kumar, A. (2016). Exploring the teachers' attitudes towards inclusive education system: A study of Indian teachers. *Journal of Education and Practice*, 7, 1-4.
- McLeod, S. (2020). Humanistic approach: Simply psychology. <https://www.simplypsychology.org/Maciariello>.
- Michael, J.P., & Olayemi, O.M. (2023). Influence of librarians' attitudes on users' patronage in private university libraries in Lagos State, Nigeria. *International Journal of Librarianship*, 8(3), 69–82. <https://doi.org/10.23974/ijol.2023.vol8.3.292>
- Mmaphuti, C. T., Ignitia, M., & Tlou, M. M., (2022). Innovative technologies for enhancing knowledge access in academic libraries. <https://doi.10.4018/978-1-6684-3364-5.ch002>.
- Oden, A. N., & Owolabi, R O (2021). Staff attitude and service delivery in university libraries in Ogun State, Nigeria. *Information Impact: Journal of Information and Knowledge Management*, 12(2), 17-29. <https://dx.doi.org/10.4314/ijikm.v12i2.2>.
- Otieno, P. O., Otike, J., & Rotich, D. (2015). The effect of library staff attitude to work on the use of information services in public university libraries in Kenya. *Asia Pacific Journal of Education, Arts and Sciences*, 2(4), 80-88. www.apjeas.apjmr.com
- Pasipamire, N., & Hoskins, R. (2019). Conceptualisation and practice of research support: A proposed model for effective research support in Zimbabwean university libraries. *South African Journal of Libraries and Information Science*, 58(1), 12-23. <https://dx.doi.org/10.7553/85-1-1819>
- Ramzan, M., Asif, M., & Ahmad, S. (2021). Librarians' attitudes towards application of information technology in academic libraries in Pakistan. *Information Research*, 26(1). 61-78. <http://informationr.net/ir/26-1/paper887.html>.
- Ranjan, P. (2023). Outline of Information Services in Libraries. In N. Pachauri (Ed.), *Research in Library & Information Science*. pp. 103-120). Agra: Associated Publishing House.