

Competencies of Higher Education Librarians to Research Support Services: A Narrative Review



Kompetensi Pustakawan Perguruan Tinggi untuk Mendukung Layanan Pendukung Penelitian: Tinjauan Narasi

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Abstract

Background: One essential need of university library users is library support for their research activities. This library role requires librarians in charge of this service to have specific specialized competencies. **Purpose:** This study aims to present an overview of research support services and identify librarians' competencies to deliver these services effectively. **Method:** This study employed a narrative review as its research method. The data was collected from the Scopus database using the keywords research support services, research services, and academic library. The search results found 21 documents. **Result:** The analysis of the 21 documents shows that research support services are essential and part of the library's responsibilities. Librarians are required to have additional competencies to offer these services, including knowledge, understanding, and skill in all research stages, information retrieval and strategies, various literature review types, bibliometric and data analysis tools, the publishing process, data visualization tools, reference management software, intellectual property rights, publication impact, presentations, and other research tools. **Conclusion:** Research support services are one of the domains of higher education libraries. Research support services must be further developed as they are essential for assisting users with their research. Providing these services requires librarians to have specific competencies. The results of this study are helpful for libraries in preparing librarian competencies for the implementation of research support services.

Keywords: Research Support Services, Narrative Review; Scopus Database, Librarian Competency, Academic Library

Abstrak

Latar Belakang: Salah satu kebutuhan pengguna perpustakaan perguruan tinggi yakni dukungan perpustakaan terhadap aktivitas penelitian. Perlu kompetensi khusus pustakawan yang bertugas di bagian layanan ini. **Tujuan:** Penelitian ini bertujuan memberikan gambaran tentang layanan dukungan penelitian (research support services) dan mengetahui kompetensi yang dibutuhkan pustakawan untuk menyiapkan layanan dukungan penelitian (research support services). **Metode:** Metode penelitian menggunakan narrative review. Data penelitian dikumpulkan melalui database Scopus, dengan menggunakan kata kunci research support services, research services dan academic library. Hasil penelusuran ditemukan 21 dokumen. **Hasil:** Hasil analisis terhadap 21 dokumen tersebut menunjukkan bahwa research support services merupakan salah satu layanan penting dan menjadi bagian dari tanggungjawab perpustakaan. Kompetensi pustakawan tambahan dibutuhkan untuk menyiapkan layanan ini. Kompetensi tersebut antara lain pengetahuan, pemahaman dan keterampilan dalam semua tahap penelitian, penelusuran informasi dan strateginya, berbagai jenis literature review, analisis bibliometrik dan berbagai perangkat analisis

data, proses penerbitan, penguasaan perangkat visualisasi data, reference management software, literasi hak kekayaan intelektual, dampak publikasi, presentasi dan berbagai alat bantu penelitian lainnya. **Kesimpulan:** Layanan dukungan penelitian (*Research support services*) menjadi salah satu domain perpustakaan perguruan tinggi, sehingga layanan ini perlu dikembangkan. Layanan ini membantu pengguna dalam pekerjaan penelitian. Layanan dukungan penelitian membutuhkan pustakawan yang memiliki kompetensi khusus. Hasil penelitian ini berguna bagi perpustakaan dalam menyiapkan kompetensi pustakawan untuk implementasi layanan dukungan penelitian.

Kata kunci: Layanan Dukungan Penelitian, Narrative Review, Database Scopus, Kompetensi Pustakawan, Perpustakaan Perguruan Tinggi

I. INTRODUCTION

Background. Higher education libraries play a strategic role in supporting the learning, research, and publication processes. Library provides learning resources (Paneerselvam et al, 2023) and facilitates space for learning (Zhu & Xie, 2023). Library supports the research process for both lecturers and students by providing various reference sources of previous research. As it is generally acknowledged, before carrying out new research, it is essential to conduct a study or analyze existing relevant research. In the process of publishing research results, library assists lecturers and students by guiding them in selecting the most suitable target journals.

University users need the strategic role of library. Higher education users need a range of increasingly diverse support services, as they are no longer fully satisfied with traditional collection services like book or e-book lending, quick reference, information repackaging, pathfinder services, guidance for reference sources, or other collection provision services. They need more specific and in-depth services related to the learning, research, and publication process.

The development of university library services needs to be carried out continuously (Luo, 2023). This is necessary to keep the library relevant within the academic community's diverse activities, enabling it to support the escalating needs and demands. One of the characteristics of higher education libraries is providing services for the academic community. Services for the academic community are indeed adapted to the development of the needs of the served community, particularly lecturers and students. One of the needs of the academic community is to conduct research and publication. The research result is more comprehensive than just ending in a research report. The results of the research are expected to be helpful for the development of science, society, and industry. However, producing research that is applicable to society and industry and that impacts scientific progress is a significant challenge. It needs to be supported by quality reference sources, quality reference sources, proficiency in information retrieval, knowledge of mapping previous research, understanding of the research process, skills in writing reports and

publication manuscripts, and understanding of determining publication media. If the research results in the form of a product, process, or service, it is also necessary to understand the process of applying for a patent or copyright.

Problems. The complexities inherent in the research process pose significant challenges for students. Academic libraries need to play a role in providing support for student research. This role requires librarians to develop new competencies in terms of understandings, skills, and attitudes. These new competencies are designed to support research support services, addressing deficiencies in current competencies that limit in-depth research activities. What new competencies do librarians need to provide research support services? Figure 1 shows graphical illustration of the problem explored in this study.

Figure 1.

The problem chart in this study



Source: Author Findings (2023)

Previous Literature Review. Previous research on the competence of college librarians was conducted by Badenhorst (2022) on librarians at two tertiary institutions, namely Mangosuthu University of Technology (MUT) and University of KwaZulu-Natal (UKZN). Using a case study research design, this research aimed to identify the competencies required for offering research data management services. Akinola (2023) has also studied the competencies needed by librarians in promoting library services. The research by Hapsari et al. (2023) explores the development model of librarian competencies related to scientific publication guidance services. Hapsari (2023) employed a qualitative descriptive method. The results of this study are in a form of model for developing librarian competencies, which consists of planning, implementing activities, and evaluation. The competence of librarians in the research services for researchers in the field of medicine at Isfahan University has been studied by Esmailzadeh et al. (2020). The results of the study state that general competencies and specific competencies are needed in research support services (Esmailzadeh et al., 2020).

State of The Art. Based on previous studies, there is a lack of research employing the narrative review method to investigate the competencies needed by college librarians for developing research support services. Conducting the narrative review method will provide

an overview of existing research, which will be a useful resource for future researchers. In Indonesia, only a few higher education libraries provide research support services (Maryati et al., 2020). A more recent study was conducted by Ali et al. (2022) using bibliometric methods on publications on the topics of research support services, information services, printed collections, digital resources, and information literacy using the Web of Science.

Purpose. This narrative review is expected to add insight into research support services and to prepare librarians who are competent in this service. This service needs to be developed by higher education libraries to improve the research performance of students and lecturers. The results of this study will contribute comprehensive knowledge about the competencies needed by university librarians in order to provide support services for student and lecturer research. The research questions are (1) what research support services are? and (2) what competencies are needed by librarians to prepare research support services?

II. METHODS

This study employed the narrative review method. Narrative review is an approach used to describe and interpret previously published publications on a particular topic (Sukhera, 2022). The Scopus database was the source for the literature search. Scopus was chosen because it is an international database that features peer-reviewed articles. The keywords applied were TITLE ("research support services") OR TITLE ("research services") AND TITLE-ABS-KEY ("academic library"). As mentioned by Sukhera (2022) in a narrative review research, researchers need to clarify how they conducted their sampling. Data searches were carried out on December 19, 2023 at 22.53 WIB. At the initial stage of the information search, using the keywords "research support services" or the keyword "research services" in the title resulted in 375 documents. Narrowing the focus to "academic library" reduced the results to 29 documents. Based on careful reading of the documents, 21 documents were deemed relevant to answer the research questions.

Furthermore, the research examined 21 documents to select articles that could be used to answer research questions. Based on the relevant literature, the researcher conducted descriptive analysis and interpretation of the information contained in the literature to answer the research questions.

III. RESULTS AND DISCUSSION

Based on 21 documents selected from the Scopus database, there are some documents that can be used to answer the research questions. The documents are listed in table 1. However, not all documents can be used because of the unavailability of the full-text format.

Tabel 1.

21 Document search results on the Scopus database

No	Authors	Title	Year	Source title
1	Corrall S.; Kennan M.A.; Salo D.	Research know-how for research support services: Preparing information specialists for emerging roles	2013	Proceedings of the ASIST Annual Meeting
2	Raju R.; Raju J.; Johnson G.	Research support services in south african academic libraries	2016	Quality and the Academic Library: Reviewing, Assessing and Enhancing Service Provision
3	Shoaib M.; Rasool S.; Anwar B.; Ali R.	Academic library resources and research support services to English teachers in higher education institutions	2023	Journal of Electronic Resources Librarianship
4	Si L.; Zeng Y.; Guo S.; Zhuang X.	Investigation and analysis of research support services in academic libraries	2019	Electronic Library
5	Brown S.; Alvey E.; Danilova E.; Morgan H.; Thomas A.	Evolution of Research Support Services at an Academic Library: Specialist Knowledge Linked by Core Infrastructure	2018	New Review of Academic Librarianship
6	Adeniran P.O.; Oyovwevotu L.	Academic library research support services: A review of Redeemer's University and the Nigeria natural medicine development agency's research activities	2019	Library Philosophy and Practice
7	González-Solar L.	User studies on library research support services planning: A case of study; [Estudios de usuarios en el diseño de servicios bibliotecarios de apoyo a la investigación: estudio de caso]	2018	Biblios
8	González-Solar L.; Fernández-Marcial V.	Academic Library Research Support Services in the Maker Culture Era	2021	Examining the Impact of Industry 4.0 on Academic Libraries
9	Borrego Á.; Anglada L.	Research support services in Spanish academic libraries: An analysis of their strategic plans and of an Opinion survey administered to their directors	2018	Publications
10	Hussain A.; Rafiq M.	Provision of research support services across the research lifecycle in university libraries	2023	Journal of Librarianship and Information Science
11	Maryati I.; Purwandari B.; Budi Santoso H.; Budi I.	Implementation Strategies for Adopting Digital Library Research Support Services in Academic Libraries in Indonesia	2020	Proceedings - 2nd International Conference on Informatics, Multimedia, Cyber, and Information

				System, ICIMCIS 2020
12	Dong W.; Liu T.; Guo Z.	Research and Countermeasure of Academic Research Support Service of University Library Based on Data	2019	Journal of Library and Information Science in Agriculture
13	Ali N.; Shoaib M.; Abdullah F.	Information literacy and research support services in academic libraries: A bibliometric analysis from 2001 to 2020	2023	Journal of Information Science
14	Tang Y.; Zhang C.	Cases on research support services in academic libraries: Peking University library	2020	Cases on Research Support Services in Academic Libraries
15	Awan M.H.; Richardson J.; Ahmed S.	Current status of research support services in university libraries of Pakistan	2022	Digital Library Perspectives
16	Kott L.; Mix V.; Marshall N.	Administrative Research Support Service	2015	Reference Librarian
17	Hammond C.	Information and research support services: The reference librarian and the information paraprofessional	1992	Reference Librarian
18	Zakaria M.S.	Data visualization as a research support service in academic libraries: An investigation of world-class universities	2021	Journal of Academic Librarianship
19	Fernández-Marcial V.; González-Solar L.	Cases on research support services in academic libraries	2020	Cases on Research Support Services in Academic Libraries
20	Hwalima T.; Khanye N.	Research Support Services in Academic Libraries in the Digital Environment in Zimbabwe	2021	Examining the Impact of Industry 4.0 on Academic Libraries
21	Kennan M.A.; Corral S.; Afzal W.	"making space" in practice and education: Research support services in academic libraries	2014	Library Management

Source: Scopus database, accessed on January 6, 2024

Research Support Services. Libraries are facing rapid change, therefore they need to adapt to the evolving and changing academic environment. More is needed for libraries to provide circulation, reference, and information literacy services. However, libraries, especially university libraries, need to develop more specific services that meet the users' needs. Research support services are a growing and vital service in higher education libraries. Esmailzadeh et al. (2020) mentioned that university libraries currently have an important responsibility, namely supporting research for students and lecturers. Based on the research by Maryati et al. (2020), in Indonesia only a few academic libraries have implemented research support services, which contrasts with the situation in Pakistan. Research on 175 university libraries in Pakistan shows that many libraries provide research support services (Awan et al., 2022). Even during the COVID-19 pandemic, libraries continued to provide research services, demonstrating the importance of these services to the public and showing the importance of these services for users (Charbonneau & Vardell,

2022; Ullah et al., 2022). Most Australian, New Zealand and Irish regional university libraries have also provided and planned bibliometric and data management services, which are part of research support services (Kennan et al., 2014).

Library research support services or research services are library services that support research work by providing services and resources and building harmonious relationships with researchers (Haddow & Mamtara, 2017). They are library services designed to support research activities, supply needed resources, and promote communication and strong relationship in order to complete research work. This service is an implementation of one of the two critical functions of traditional higher education libraries. The two traditional essential functions of libraries are supporting teaching and supporting research (Fernández-Marcial & González-Solar, 2020).

According to the 2017 QS World University Rankings, 96.2% of the 76 top academic libraries around the world offered research support services. This is the result of research conducted by Si et al., 2019. An exploration of library websites was conducted to determine the offered research support services. It was found that the research support services can generally be divided into seven aspects, namely research data management, open access, scientific publishing, research impact measurement, research guidance, research consultation, and research tool recommendations.

An investigation by Maryati et al. (2020) on 9 university libraries in Indonesia showed that the libraries still need to fully adopt research support services. Maryati et al. (2020) found 15 features of research support services, while this study found seven aspects. Nevertheless, these seven aspects essentially incorporate the 15 characteristics presented by Maryati et al. Based on a survey conducted by the Indonesian Higher Education Library Forum, out of 81 higher education libraries, 15 libraries have provided research support services related to the provision of research applications (Istiana et al., 2023). While ten libraries provide research consultation and publication services, nine libraries provided guidance services but did not specifically mention it as a research guidance service. Regarding research data management, it appears that university libraries in Indonesia need to provide services explicitly related to research data management.

Research data services in higher education libraries in Indonesia have been studied at the initial research stage at the Library of the Institute of Agricultural Technology (Sujana et al., 2019). The research results by Sujana et al. (2019) mentioned that respondents agreed to manage research data in the library, which was then served to users. Regarding scientific publishing, several universities in Indonesia have provided consulting services to their users when they publish their research results (Istiana et al., 2023).

Competencies Needed by Librarians for the Implementation of Research Support Services. Libraries need to prepare human resources (librarians) who are ready to provide these services. The challenges faced by libraries in providing these services include a need for more understanding and skills in the research process and technological infrastructure (Leonard et al., 2023). Leonard et al. (2023) state that the competencies required are understanding and skills in the various stages of the research process. Adequate competence is a must for librarians. Esmailzadeh et al. (2020) said that librarian competencies that need to be developed in the context of research support services include general competencies

and specific competencies. General competencies include communication, professional ethics, and basic skills. Whereas, specific competencies consist of six categories, namely information search and evaluation, use of research software, research assistance, intellectual property literacy, scientific publication literacy, scientometrics, and altmetrics (Esmailzadeh et al., 2020). This aligns with the seven aspects of research support services presented by Si et al. (2019). In addition, according to Leonard et al. (2023), librarians must have the abilities or skills in research services proposal writing, data analysis, formulating hypotheses, using data analysis applications, research methods, data collection, literature review, presentation, and reference management. Research data visualization is an aspect of the research process, and it can be included as part of research services.

In order to prepare research support services, libraries need to provide training for librarians to be ready to provide these services. This is in line with Hammond (1992) who mentioned the need for staff training in research support services. Librarian competencies to support research support services are presented in table 2.

Tabel 2.
Librarian Competencies to Support Research Support Services

No	Competencies
1	Corrall S.; Kennan M.A.; Salo D.
2	Raju R.; Raju J.; Johnson G.
3	Shoaib M.; Rasool S.; Anwar B.; Ali R.
4	Si L.; Zeng Y.; Guo S.; Zhuang X.
5	Brown S.; Alvey E.; Danilova E.; Morgan H.; Thomas A.
6	Adeniran P.O.; Oyovwevotu L.
7	González-Solar L.
8	González-Solar L.; Fernández-Marcial V.
9	Borrego Á.; Anglada L.
10	Hussain A.; Rafiq M.
11	Maryati I.; Purwandari B.; Budi Santoso H.; Budi I.
12	Dong W.; Liu T.; Guo Z.
13	Ali N.; Shoaib M.; Abdullah F.
14	Tang Y.; Zhang C.
15	Awan M.H.; Richardson J.; Ahmed S.

Source: Scopus database, accessed on January 6, 2024

Research support service competencies are expected to be prepared by libraries and librarians. In addition to basic skills related to understanding the entire research process, the ability to operate various research support applications must also be mastered. A study on 30 libraries from 100 world-ranked universities in 2021 (World University Rankings

2021) states that most libraries (93.3%) offer data visualization tools and software such as Tableau, R, Excel, Gephi, and Plotly (Zakaria, 2021). One of these data visualization tools may need to be mastered by librarians to support research effectively. The duties of libraries and librarians in these research support services are not limited to providing information resources. Brewerton (2012) mentions that the library is responsible for providing subject-specific reference sources and teaching information retrieval and management techniques as a part of research support. However, along with the development of needs and information technology, research support services are growing, thus requiring more varied competencies.

Research data services in higher education libraries in Indonesia have been studied at the initial research stage at the Library of the Institute of Agricultural Technology (Sujana et al., 2019). The research results by Sujana et al. (2019) mentioned that respondents agreed to manage research data in the library, which was then served to users. This indicates awareness of the importance of research data management as part of library services. Furthermore, regarding scientific publishing, several universities in Indonesia have provided consulting services to their users when they publish their research results (Istiana et al., 2023). This step not only helps in publishing research but also enhances the visibility and impact of the scientific work produced.

The continuous development of technology and evolving research needs require libraries to adapt and enhance their competencies continually. Effective research support services can improve the quality and efficiency of research and support collaboration among researchers. By providing data visualization tools and publication consulting services, libraries can play a more active role in the research ecosystem. Therefore, it is crucial for libraries to keep developing their librarians' skills in operating research software and understanding the latest trends and dynamics in the research world. This will not only strengthen the library's role as an information resource center but also as a strategic partner in research and the advancement of knowledge.

Research Limitations (Disclaimer). This research is limited to using publications from the Scopus database. There may be relevant publications that were missed due to the use of different keywords.

IV. CONCLUSION

Research support services are one of the domains of higher education libraries. Therefore, this service needs to be developed. This service helps users in their research work, thus requiring librarians to have specific competencies. These competencies include knowledge, understanding, and skills in all stages of research, information retrieval and strategies, various literature review types, bibliometric and data analysis tools, the publishing process, data visualization tools, reference management software, intellectual property rights, publication impact, presentations, and other research tools. This service strengthens the harmonious relationship between librarians, researchers, and students. This research is also an input for higher education libraries in Indonesia to provide research support services and prepare competent librarian resources.

Future Work. The findings of this study can still be developed by conducting research with librarian respondents to find out the readiness of librarians regarding the various competencies identified in this study.

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