IJCSS 6 (4) (2025) Pages:. 1347-1359

Journal homepage: http://pcijournal.org/index.php/ijcss

International Journal of Cultural and Social Science

Published: Pena Cendekia Insani

ANALYSIS OF FACULTY SCIENTIFIC WORKS CITATIONS IN STUDENTS' THESES ON GOOGLE SCHOLAR WEBSITE IN THE LIBRARY SCIENCE STUDY PROGRAM FOR THE PERIOD 2019–2024

Tiara Dwi Handayani Sugiri[1], Muslih Fathurrahman[2]
[1,2]Universitas Islam Negeri Sumatera Utara, Indonesia

Article Info

Keywords:

Bibliometrics, citation analysis, undergraduate theses, VOSviewer, library science, UINSU.

ABSTRACT

The limited utilization of faculty publications in undergraduate theses reflects the suboptimal integration between research and teaching in higher education. This study aims to map the extent to which faculty scientific works are cited in undergraduate theses of the Library and Information Science Study Program at the State Islamic University of North Sumatra (UINSU) during the 2019–2024 period. A total of 50 undergraduate theses were analyzed using a bibliometric approach supported by VOSviewer software, while faculty publications were identified through Google Scholar and SINTA databases. The analysis of 1,634 reference entries revealed only eight citations to faculty works, distributed across six theses (approximately 0.48% of all references). These findings indicate a low level of visibility and integration of faculty research within students' academic writing. Bibliometric visualizations further reveal fragmented citation connections, a strong reliance on external sources, and the absence of a cohesive internal citation cluster. The study implies the urgent need for relevance-based citation policies, improved information literacy training, curated thematic reading lists of faculty works, and the optimization of institutional repositories and digital scholar profiles to strengthen academic knowledge circulation and enhance research–learning integration within higher education institutions.

Corresponding Author:

Tiara Dwi Handayani Sugiri
Universitas Islam Negeri Sumatera Utara, Indonesia
Email: tiara0601202051@uinsu.ac.id

1. INTRODUCTION

Research, education, and community service are the three fundamental pillars of higher education known as Tridharma Perguruan Tinggi in Indonesia. Among these, research plays a crucial role in shaping academic excellence, generating new knowledge, and strengthening the learning process. Faculty members, as the primary actors of the Tridharma, are expected not only to produce scientific works but also to ensure that their research outputs contribute to student learning and academic development (Moed, 2005; Garfield, 2006). The integration between research and teaching is one of the most important indicators of institutional academic maturity. A tangible measure of this integration is the extent to which students use faculty publications as references in their theses and academic writings (Harzing & van der Wal, 2008).

However, recent studies show that the utilization of lecturers' scientific works by students remains limited across various higher education institutions. This issue has been linked to several factors such as insufficient information literacy, the low digital visibility of faculty research, and the absence of institutional

policies promoting internal citations (Murni, Sudiar, & Latiar, 2024; Maya & Sarbini, 2023). In the digital era, platforms such as Google Scholar and SINTA play a vital role in facilitating access to academic publications, yet their potential has not been fully leveraged to strengthen the interconnection between lecturers' research and student learning (Harzing, 2007; Nugrahanti et al., 2023).

Integrating faculty research into student writing has dual benefits. Academically, it enhances the quality of student theses by exposing them to current, institutionally relevant studies. Institutionally, it helps elevate the visibility and impact of university scholarship, contributing to better academic reputation and internal knowledge circulation (Laksmi & Sukaesih, 2018). Furthermore, internal citation practices are essential for fostering a research-based learning environment and aligning curriculum outcomes with institutional research priorities (Zupic & Čater, 2015). When faculty publications are actively referenced, it signifies that the university's research culture is functioning effectively and that students are engaging critically with locally produced knowledge (van Eck & Waltman, 2010).

Preliminary observations of undergraduate theses within the Library and Information Science Study Program at the State Islamic University of North Sumatra (UINSU) revealed a limited number of references citing faculty works, despite the availability of numerous open-access publications in the institutional repository. This gap between the availability and utilization of faculty publications raises a critical question: to what extent are lecturers' scientific works integrated into students' academic writing, and what factors contribute to their low citation rate? Addressing these questions is essential not only for assessing the effectiveness of academic information dissemination but also for improving institutional policies that promote evidence-based learning and intellectual visibility (Sri Mulyani, 2024; Makmur et al., 2021).

This study, therefore, aims to analyze the citation patterns of lecturers' scientific works in students' theses from the Library Science Study Program at UINSU during the 2019–2024 period. Specifically, it identifies the types and frequencies of cited works, examines the publication years and affiliations of cited authors, and visualizes the citation network using bibliometric mapping tools such as VOSviewer. By doing so, the research contributes both theoretically and practically: theoretically by extending bibliometric approaches to internal institutional contexts, and practically by providing evidence-based recommendations for strengthening the integration of faculty research into teaching and learning activities within Indonesian higher education institutions.

2. RESEARCH METHOD

This study adopted a quantitative descriptive design using a bibliometric approach to analyze and visualize the citation patterns of faculty scientific works referenced in undergraduate theses of the Library and Information Science Study Program at the State Islamic University of North Sumatra (UINSU). The bibliometric method was selected because it enables a systematic, objective, and replicable examination of citation data to evaluate scientific communication and research utilization within an academic environment (Zupic & Čater, 2015).

The bibliometric approach was deemed particularly relevant to this study's objective to measure the extent to which faculty research outputs are integrated into students' academic writing. Bibliometric research has been widely used to assess scientific productivity, citation impact, and visibility across institutional and disciplinary contexts (Moed, 2005). Through this method, the study aimed to not only quantify the number of citations but also to explore the structural relationships among cited authors through network visualization (van Eck & Waltman, 2010).

The population of this research comprised all undergraduate theses submitted by students of the Library and Information Science Study Program between 2019 and 2024, as archived in the official UINSU Institutional Repository. Faculty publications were identified using the Google Scholar and SINTA databases. Both platforms were selected for their accessibility and comprehensive indexing of academic outputs affiliated with Indonesian universities (Harzing, 2007). The data were retrieved by searching for the names of faculty members along with the institutional keyword "UIN Sumatera Utara."

A purposive sampling strategy was applied to select 50 theses available in full-text PDF format. This sampling ensured that only theses with complete bibliographic sections and accessible metadata were included for analysis. Each thesis was examined manually to extract citation information, focusing specifically on whether faculty-authored works appeared in the reference lists.

The main instrument used in this study was a structured data sheet developed in Microsoft Excel. Each row of the dataset represented a single citation, with columns recording the reference title, publication year, type of source (journal, book, proceeding, or report), author's name and affiliation, lecturer authorship

indicator (yes/no), DOI or URL source, and the student's name and thesis title. This detailed structure enabled precise mapping and classification of references for subsequent analysis.

Data analysis was carried out through two complementary techniques: descriptive statistical analysis and bibliometric visualization. Descriptive analysis involved calculating the total number of references, the number and percentage of citations to faculty works, and their distribution by publication type and year. For bibliometric visualization, VOSviewer software was employed to generate three types of bibliometric maps: network visualization, overlay visualization, and density visualization (van Eck & Waltman, 2010). The Publish or Perish (PoP) application was used to extract citation data from Google Scholar and convert it into CSV format for integration into VOSviewer. Together, these tools facilitated the mapping of citation relationships and temporal citation trends across the dataset (Harzing, 2007).

To ensure the validity and reliability of the data, multiple verification procedures were applied. Each citation entry was cross-checked with author profiles in Google Scholar and SINTA to confirm institutional affiliation and authorship. To minimize bias in the identification process, two independent coders performed citation verification, followed by an inter-rater reliability test. Any discrepancies between coders were discussed and resolved through consensus. Furthermore, a triangulation process was implemented by comparing search results across different databases, thereby enhancing the accuracy and consistency of data classification.

Ethical considerations were also carefully addressed throughout the research process. Since all analyzed materials were derived from open-access repositories and publicly available academic databases, the study did not involve any form of personal, sensitive, or confidential data. Therefore, no ethical clearance was required. Nonetheless, the research adhered to academic integrity principles by maintaining transparency, traceability, and reproducibility. All bibliometric datasets, analysis sheets, and visualization outputs were archived in the UINSU institutional repository and can be reproduced upon request to ensure research transparency.

The overall analytical process followed a structured data-driven bibliometric workflow, adapted from Zupic and Čater (2015), which includes six sequential steps: data identification, bibliography extraction, reference matching with faculty publications, data classification, bibliometric visualization, and interpretation for policy recommendations. This workflow ensured methodological consistency, reproducibility, and rigor in producing credible findings.

In summary, the methodological framework combined descriptive statistics with visual bibliometric mapping to comprehensively evaluate the relationship between faculty research productivity and student academic utilization. By integrating data triangulation, ethical transparency, and visualization analysis, this study provides a robust methodological foundation for understanding citation behavior and research visibility in the context of Indonesian higher education.

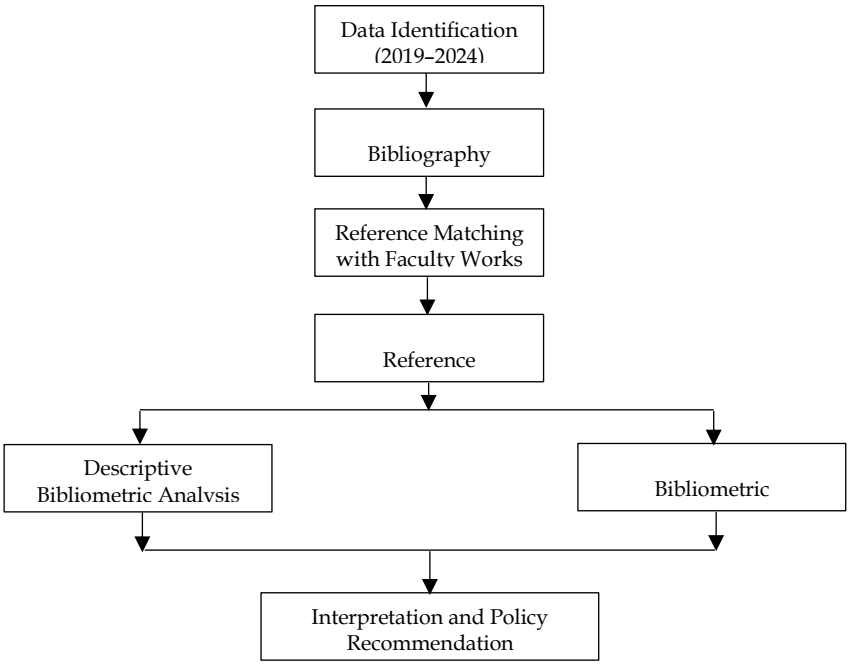

Figure 1. Research Flowchart

3. RESULTS AND ANALYSIS

The Islamic Library and Information Science Study Program is a program under the Faculty of Social Sciences at the State Islamic University of North Sumatra (UINSU). This program offers undergraduate (S1) education and focuses on the development of Islamic-based librarianship, information technology, and community literacy.

Study program has a vision and mission; the Vision of the Library Science Study Program is "To become a centre for professional learning in the field of libraries based on information technology based on Islamic values in 2027". Meanwhile, the Mission of the Library Science Study Program is as follows [18]:

a) Implementing a professional education and learning process in preparing experts in the field of information technology-based libraries in accordance with National Education Standards.
b) Conducting research in the field of information technology-based libraries in accordance with National Research Standards.
c) Carrying out community service activities in the field of information technology-based libraries based on the National Standards for Community Service.
d) Establishing cooperation in education, research and community service in the field of information technology-based libraries with various related institutions.

Table 1. Names of Lecturers in the Library Science Study Program

No.	Lecturer Name	Position
1	Dra. Retno Sayekti, MLIS	Associate Professor
2	Dr. Abdul Karim Batubara, MA	Associate Professor
3	Dr. Khoirul Jamil, Lc., MA	Lecturer
4	Franindya Purwaningtyas, MA	Lecturer, Head of Study Program
5	Abdi Mubarak Syam, M.Hum	Lecturer
6	Muslih Fathurrahman, MA	Expert Assistant
7	Yusniah, MA	Lecturer
8	Miftha Khulzannah, MA	Expert Assistant
9	Nurhayani, S.Ag., M.Si	Lecturer

The research data in the bibliography of Library Science students' final assignments is taken from Publish or Perish. Publish or Perish (PoP) is software developed by Anne-Wil Harzing to assist researchers in citation analysis and academic performance evaluation (Harzing, 2007). This application allows users to access data from various sources such as Google Scholar, Scopus, Crossref, and others. PoP is widely used in bibliometric research because it provides important metrics such as the number of publications, the number of citations, the h-index, the g-index, the i10-index, and others.

The search steps in Publish or Perish are as follows:

a) Download the app from the official website
b) Install and open the application, then select Google Scholar as the data source.
c) The data sources are Google Scholar (publication) and the UINSU Repository by entering the search keywords UIN North Sumatra as an affiliation, final assignment, Library Science, 2019-2024.
d) Click 'Search' to start the search and wait for the results to appear.
e) Review the data that appears such as publication title, year, number of citations, and journal.
f) Right click and select 'Export to Excel' to save the search results.
g) Then, the data is analyzed bibliometrically or compared with the scientific work of library science lecturers.

The results of the Library Science final assignment search revealed 176 indexed final assignments, and after analysis, only 50 publications were final assignments by Library Science students at UIN North Sumatra for the 2019-2024 period. Meanwhile, the results of the bibliography analysis of 50 final assignments for Library Science students graduating from 2019 to 2024 revealed that only 6 final assignments used citations from the scientific works of Library Science lecturers.

Table 2. List of Citations of Scientific Works by Lecturers of the Library Science Study Program in Student Final Assignments for the 2019-2024 Period

No.	Student Name	Final Project Title	Title of Work Lecturer Yang Citation	Author	Year	Type Thesis	Amount Citation
1	Nur Aini Hasibuan	Artificial Intelligence dan Komunikasi Ilmiah: Eksplorasi Perspektif Mahasiswa Ilmu Perpustakaan	Analysis of Information Literacy Skills of UINSU Library Science Students in Information Search	Franindya Purwaningtyas	2023	Journal Articles	2
			Understanding Artificial Intelligence Research Trends in Libraries Through Bibliometric Analysis of International Scientific Publications 2019-2023	Retno Sayekti	2023		
2	Rizka Mulida	Perilaku Pencarian Informasi Mahasiswa Fakultas Kedokteran Universitas Muhammadiyah Sumatera Utara di Masa Pandemi Covid-19	Information Seeking Behavior Models	Muslih Fathurrahman	2016	Thesis	1
3	Shinta Dewi	Persepsi Mahasiswa Program Magister dalam Pemanfataan Jurnal Elektronik pada Perpustakaan Universitas Islam Negeri Sumatera Utara	Virtual Learning and the Role of Liaison Librarians in STEM Academic Programs. Issues In Science Technology Librarianship	Retno Sayekti	2020	Thesis	1
4	Sari Laily Rahmadani Skb	Analisis Penerimaan Aplikasi Perpustakaan Digital Bagi Pemustaka di Perpustakaan Universitas Muhammadiyah Sumatera Utara (UMSU)	User Acceptance Level of the IJOGJA Digital Library Application. Library and Archival Information Science	Muslih Fathurrahman	2020	Journal Articles	2

No.	Student Name	Final Project Title	Title of Work Lecturer Yang Citation	Author	Year	Type Thesis	Amount Citation
			Analysis of Acceptance of the Digital Library Information System of UIN Sumatera Utara Medan Using the Technology Acceptance Model Approach	Retno Sayekti	2019		
5	Aldi Priatmana	Pengaruh Ketersediaan Koleksi Perpustakaan Fakultas Ilmu Sosial dan Politik USU dalam Pemenuhan Kebutuhan Informasi	Analysis of the Availability of Library Material Collections Related to Fulfilling the Information Needs of Library Users at the PMI Medan Denai Library	Yusniah	2023	Journal Articles	1
6	Muhammad Nuh Nasution	Perilaku Pencarian Informasi Pemustaka(Generasi Baby Boomers) Menggunakan Teori David Ellis Dinas Perpustakaan dan Arsip Provinsi Sumatera Utara	Information Seeking Behavior Models	Muslih Fathurrahman	2016	Journal Articles	1

Based on the data above, the number of final assignments of Library Science Study Program students graduating in 2019 – 2024 that cite the work of Library Science Study Program lecturers is 6 final assignments with a total of 8 citations. The final assignment of students that cites the lecturers' work the most is 2 citations and the least is 1 citation.

Table 3. Frequency of Citations of Scientific Works by Lecturers of the Library Science Study Program in the Final Assignments of Library Science Study Program Students for the 2019-2024 Period

No	Final Year Assignment	Total Citations in the Final Assignment of Library Science Study Program Students	Total Citations Scientific work Lecturer of Library Science Study Program	%	Interpretation
1	2019 - 2024	1634	6	0.48	<20% Quite Low

General Statistics References

Based on an analysis of 50 reference entries from the final assignments of UINSU Library Science Study Program students for the 2019–2024 period, it was found that:

a) Total references analyzed: 50 entries.
b) Number of references which are the work of UINSU lecturers: 8.
c) Percentage of citations to lecturers' work: 0.48% with an interpretation of <20%

This finding shows that the use of lecturers' scientific works as references for students' final assignments is not yet optimal.

Distribution of Publication Types

Types of reference sources used by students of the Library Science Study Program of UIN North Sumatra in writing their final assignments, both in the form of theses and scientific articles in the period 2019 to 2024. These reference sources are grouped into five categories, namely books, scientific journals, proceedings, research reports, and lecturers' scientific works.

Based on the analysis, it was found that lecturers' scientific works, in the form of scientific journals, were the most dominant type of reference used by students for their final assignments, while books, proceedings, and research reports were used only to a very limited extent. A striking finding is the very rare citation of lecturers' own scientific works, whether in journals, textbooks, or other works.

This finding indicates that lecturers' scientific work has not yet become a primary source for students' final assignments. Citations serve as indicators of a work's scientific impact and involvement in academic communication [2]. Therefore, the absence of citations for lecturers' scientific work reflects the still minimal scientific connection between lecturers and students within the study program.

This situation also indicates a tendency for students to refer more to literature sources outside the institution than to utilize their lecturers' own publications. Factors that may influence this include a lack of publicity for lecturers' work, limited access to internal publications, and suboptimal guidance from supervisors regarding the use of lecturers' literature.

Distribution of Publication Years

Reference maturity is also examined based on the year of publication, as shown in Table 4 and Figure 2. 3.1. General Statistics References

Based on an analysis of 50 reference entries from the final assignments of UINSU Library Science Study Program students for the 2019–2024 period, it was found that:

a) Total references analyzed: 50 entries.
b) Number of references which are the work of UINSU lecturers: 8.
c) Percentage of citations to lecturers' work: 0.48% with an interpretation of <20%

This finding shows that the use of lecturers' scientific works as references for students' final assignments is not yet optimal.

Distribution of Publication Types

Types of reference sources used by students of the Library Science Study Program of UIN North Sumatra in writing their final assignments, both in the form of theses and scientific articles in the period 2019 to 2024. These reference sources are grouped into five categories, namely books, scientific journals, proceedings, research reports, and lecturers' scientific works.

Based on the analysis, it was found that lecturers' scientific works, in the form of scientific journals, were the most dominant type of reference used by students for their final assignments, while books, proceedings, and research reports were used only to a very limited extent. A striking finding is the very rare citation of lecturers' own scientific works, whether in journals, textbooks, or other works.

This finding indicates that lecturers' scientific work has not yet become a primary source for students' final assignments. Citations serve as indicators of a work's scientific impact and involvement in academic communication [2]. Therefore, the absence of citations for lecturers' scientific work reflects the still minimal scientific connection between lecturers and students within the study program.

This situation also indicates a tendency for students to refer more to literature sources outside the institution than to utilize their lecturers' own publications. Factors that may influence this include a lack of publicity for lecturers' work, limited access to internal publications, and suboptimal guidance from supervisors regarding the use of lecturers' literature.

Distribution of Publication Years

Reference maturity is also examined based on the year of publication, as shown in Table 4 and Figure 2.

Table 4. Distribution of Reference Publication Years

Publication Year	Amount
2016	2
2019	1
2020	2
2023	3

The data above shows that the level of recency of lecturers' works cited by students in their final assignments who graduated in 2019 to 2024 varies greatly, the oldest citation year is 2016 with 2 citations and the most recent is 2023 with 3 citations.

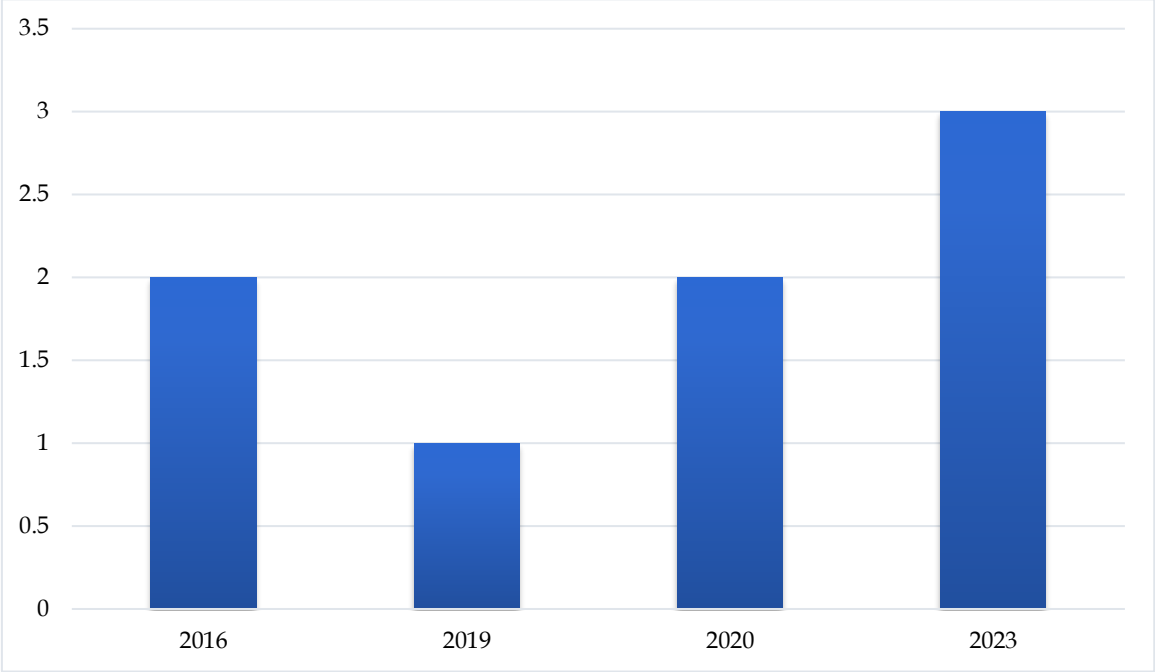

Figure 2. Distribution of Reference Publication Years

Author of Scientific Works from Library Science Study Program Lecturers Who Are Often Cited in Final AssignmentsLibrary Science Study Program Students for the 2019-2024 Period

The authors or writers analyzed are authors or authors who are the names of people and the main authors or authors in a work, authors or authors who are frequently cited show recognition or contribution and also reflect their influence in shaping and directing research according to their respective fields.

Table 5. Authors of Scientific Works from Library Science Study Program Lecturers Frequently Cited in Library Science Study Program Students' Final Assignments for the 2019-2024 Period

No.	Name Author/Writer	Frequency Citation	Percentage %	Interpretation	
1	Muslih Fathurrahman	3	37.5	20%-39%	Low
2	Retno Sayekti	3	37.5	20%-39%	Low
	Total	6	75		

The authors or writers of scientific works by lecturers in the Library Science Study Program who are frequently cited in the final assignments of Library Science Study Program students for the 2019-2024 period are presented in the following table.

Based on the table above, it can be seen that there are 2 (two) authors or writers of scientific works from lecturers of the Library Science Study Program who are frequently cited in the final assignments of Library Science Study Program students graduating in the 2019-2024 year. The most frequently cited lecturers are Muslih Fathurrahman cited 3 times (37.5%) and Retno Sayekti cited 3 times (37.5%). The scientific work

from Muslih Fathurrahman entitled "Models of Information Search Behavior" is the most cited work in the 2 final assignments of Library Science Study Program students graduating in the 2019-2024 year.

Apart from these 2 authors, there are also other authors from the Library Science Study Program whose works have been cited, namely Franindya Purwaningtyas and Yusniah, each with 1 citation, as can be seen in the following table.

Bibliometric Visualization

This study utilizes VOSviewer software to map and visualize bibliometric relationships based on the bibliography of 50 final assignments of Library Science students from UINSU for the 2019–2024 period. Three types of visualizations are displayed: Network Visualization, Overlay Visualization, and Density Visualization.

a. Network Visualization

This visualization shows the network of connections between the most frequently cited authors. Each node (dot) represents an author's name from a reference used by students. The larger the node, the higher the frequency of citations to that name. Connecting lines (edges) indicate co-citation relationships between authors.

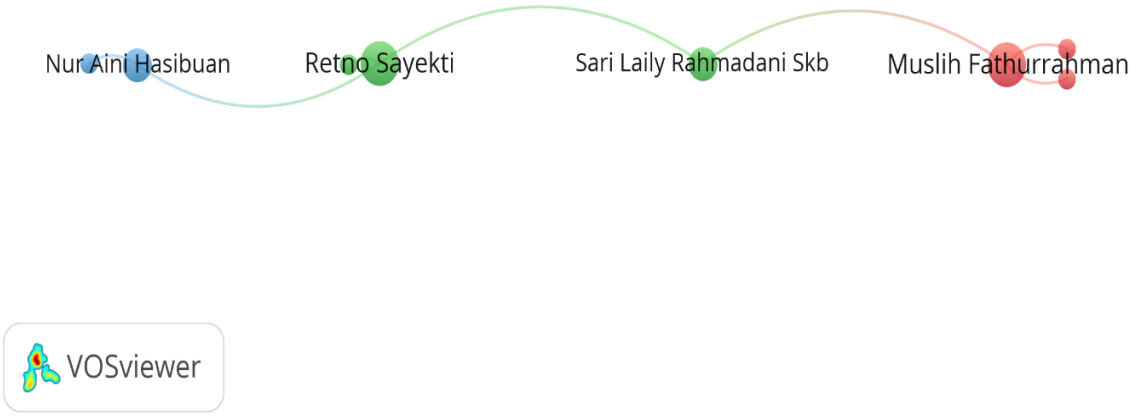

Figure 3. Network Visualization

The image above shows the results of a network visualization of the citation analysis of lecturers' scientific works in the final assignments of students in the UINSU Library Science Study Program for the 2019-2024 period. This network visualization produces 8 items divided into 3 clusters with a total of 7 links. Each node represents the name of the cited author or lecturer and the name of the citing student, while the connecting lines (links) indicate the citation relationship between the student and the referred author.

The analysis results show the existence of two main nodes that act as reference centers, namely Muslih Fathurrahman and Retno Sayekti. Muslih Fathurrahman received three citations from different students (Rizka Maulida, Muhammad Nuh Nasution, and Sari Laily Rahmadani Skb), thus placing him as the author with the highest level of citation connectivity. A similar thing is also seen for Retno Sayekti, who received three citations from different students (Shinta Dewi, Sari Laily Rahmadani Skb, and Nur Aini Hasibuan). Meanwhile, other authors or lecturers such as Franindya Purwaningtyas only received one citation from a student (Nur Aini Hasibuan), so their role is relatively smaller in the network.

This network structure shows a fragmented reference pattern, with only a handful of authors' names being the dominant citation centers, while most others are not widely connected. Furthermore, there are students' names that act as intercluster connectors because they cite more than one different author or lecturer, thus creating cross-relationships between clusters. These students are Sari Laily Rahmadani Skb and Nur Aini Hasibuan.

Overall, these findings indicate that while several authors or lecturers are cited relatively frequently, the level of utilization of lecturers' scientific work is generally low and has not yet formed a larger, stronger cluster. In other words, student citation patterns are still spread across a number of external authors and concentrated on only a few internal authors or lecturers.

b. Overlay Visualization

The overlay visualization provides a temporal dimension to the citation network. Node colors indicate the dominant year of the reference used, from blue (older years, ~2016) to yellow (more recent years, ~2023).

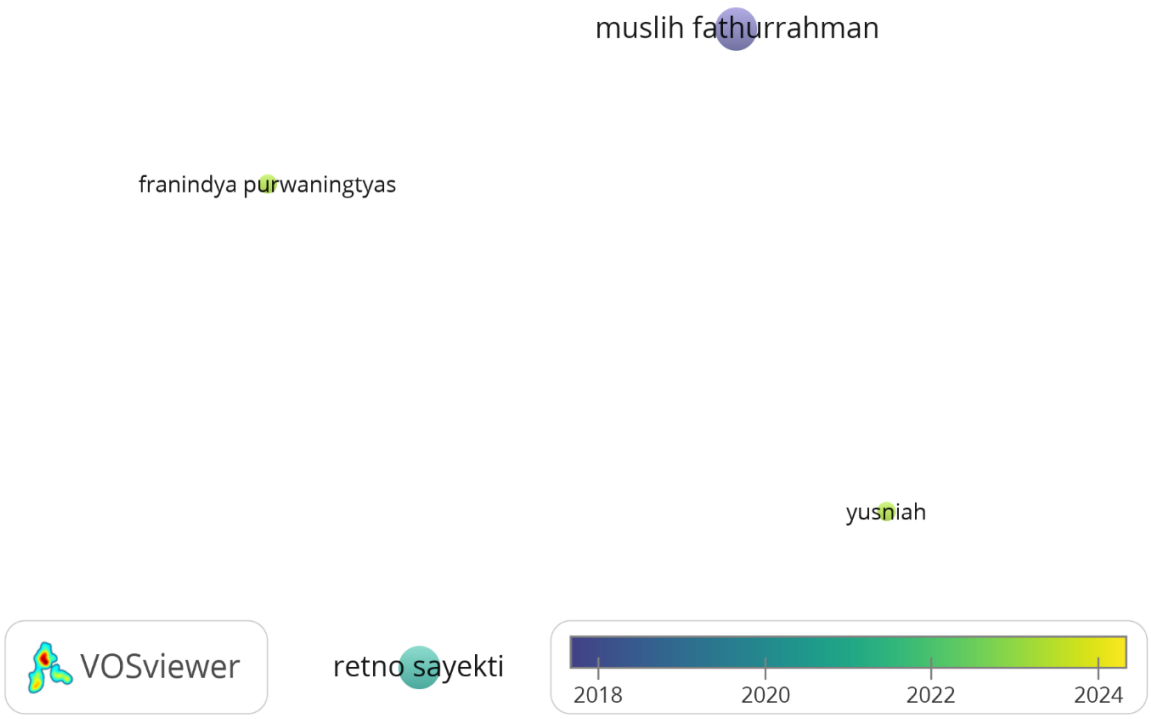

Figure 4. Overlay Visualization

The image above shows an Overlay Visualization that displays the temporal dimension of the citations of lecturers' scientific works used by students in writing their final assignments. The color of the nodes indicates the dominant year of citation, where blue indicates relatively old citations (around 2016–2019), while green to yellow indicate more recent citations (2022–2024). The visualization results show that Muslih Fathurrahman appears as an author with a larger purplish-blue node, indicating that his work was cited earlier and is quite consistently used as a reference. Retno Sayekti is in bluish-green, which indicates that her work is cited relatively more recently than Muslih Fathurrahman. Meanwhile, Franindya Purwaningtyas and Yusniah are colored yellowish-green with small node sizes, indicating a smaller number of citations and their emergence in the period approaching 2022–2024. Overall, this overlay visualization confirms that citations of UINSU lecturers' scientific works are still sporadic, without large, dominant clusters, and shows differences in the time periods of reference use among students.

c. Density Visualization

Density visualization displays citation intensity as a color gradient. Yellow indicates areas with the highest citation frequency, while blue indicates low intensity.

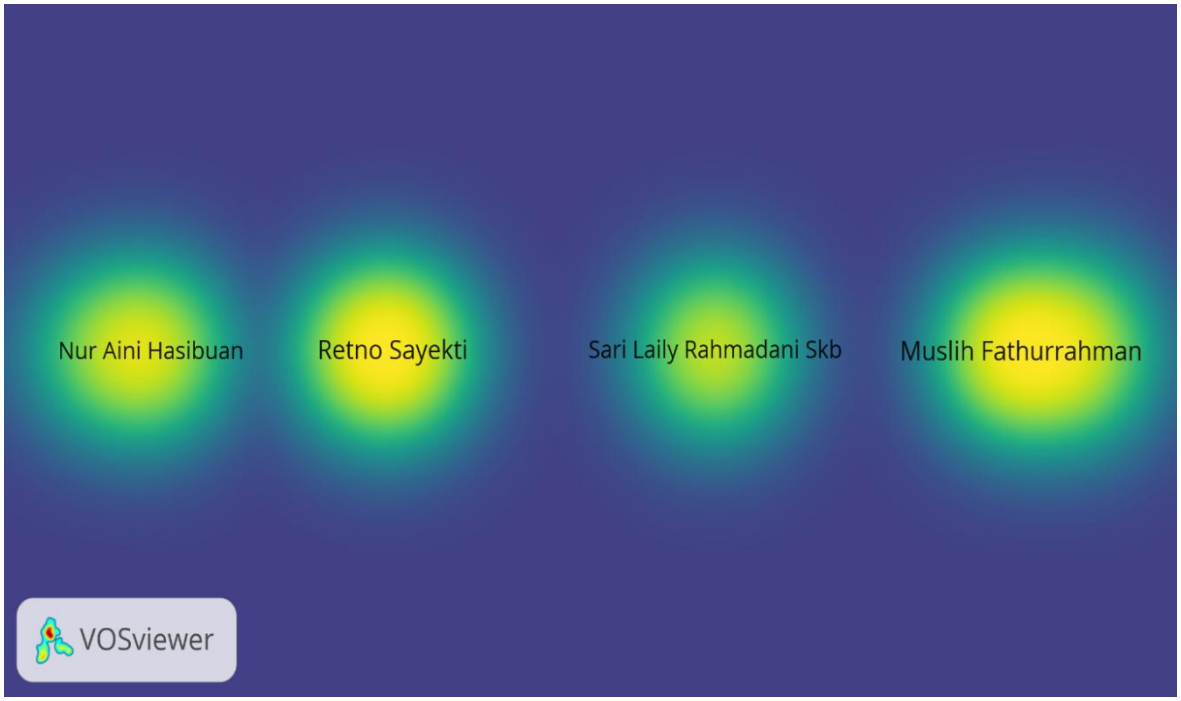

Figure 5. Density Visualization

The image above shows a mapA density visualization showing a citation density map generated by VOSviewer from citation data in a sample of student final assignments. In this map, the intensity of citation occurrence is visualized using a color scale: yellow indicates areas with the highest citation intensity (hotspots), green indicates medium intensity, and blue indicates low intensity.

Visual analysis identified four distinct hotspots, most prominently surrounding the labels Muslih Fathurrahman, Retno Sayekti, Sari Laily Rahmadani Skb, and Nur Aini Hasibuan. The scattered distribution of hotspots (not widely overlapping) indicates that the citation frequency in this sample is concentrated in a few specific entities, but does not form a single integrative cluster that dominates the entire network. In other words, although there are several entities that are cited relatively more frequently, the overall citation pattern is fragmented, with students referring to several different sources and there is no strong consolidation of references to the work of internal lecturers of the UINSU Library Science Study Program.

Density visualization in VOSviewer calculates density based on node position and item weight. The density value at a location is the sum of the weights of the surrounding items, so hotspots are formed at locations with the highest accumulated weights/links. Therefore, the hotspots on Muslih Fathurrahman and Retno Sayekti indicate that their work has a greater accumulated citation (or total link strength) than other items in the sample. However, it should be noted that this map is representative of the data analyzed on datasets with a small number of internal citations, the size and intensity of hotspots can be greatly influenced by a relatively high number of single occurrences.

The results of this study indicate that the level of utilization of scientific works of lecturers of the Library Science Study Program at UIN North Sumatra in writing students' final assignments for the 2019–2024 period is still relatively low. Most students use external literature more than the lecturers' scientific works, and only a few lecturers receive citations, such as Muslih Fathurrahman, Retno Sayekti, Franindya Purwaningtyas, and Yusniah. Bibliometric visualization analysis using VOSviewer also shows that citation patterns are still fragmented, so that a consolidated citation network has not yet formed among the lecturers' works used by students.

This finding is similar to the research conducted by Sri Mulyani (2024) who examined the citation analysis of the scientific works of lecturers in the Islamic History and Culture Study Program (SKI) at the Faculty of Adab and Humanities, UIN Ar-Raniry Banda Aceh. The study found that in the theses of students graduating in 2020–2021, there were only 64 citations (2.68%), with a low citation rate, and only a few lecturers were the main references, namely Abdul Manan, Misri A. Muchsin, and Hermansyah. This similarity indicates that the low citation of lecturers' works in student theses is not unique to one study program but is a common phenomenon across several Islamic religious universities in Indonesia.

Despite similarities in terms of low citation rates, this study differs significantly from Sri Mulyani's. Sri Mulyani's study used descriptive analysis to calculate the frequency, recency, and dominant cited lecturers.

Meanwhile, this study not only counted the number of citations but also conducted visual bibliometric analysis through network visualization, overlay visualization, and density visualization using VOSviewer software. With this approach, this study was able to identify inter-author relationships, the temporal distribution of citations, and the density of topics emerging from the works of the lecturers cited.

Thus, this study not only reinforces Sri Mulyani's findings regarding the low utilization of lecturers' work but also provides a novel contribution in the form of a visual analysis of citation networks. This novelty confirms that the citation rate of lecturers' work can be measured not only quantitatively but also through the structure and patterns of connections within the bibliometric network. These results emphasize the importance of strengthening student information literacy and integrating lecturers' work into learning to improve the utilization of internal literature in the future.

This research makes an important contribution to the development of academic fields, particularly in library and information science studies. The results indicate that students still utilize lecturers' scientific work in their final assignments. These findings can serve as a reflection for institutions to improve the integration of lecturers' research findings into the curriculum and learning process, so that lecturers' work is not only an academic product but is also truly utilized as a scientific reference by students. This research also has implications for the development of institutional repositories and academic culture in higher education. The low citation rate of lecturers' work reinforces the importance of institutional repositories and open access as strategies to increase the visibility of scientific publications (Laksmi & Sukaesih, 2018; Ministry of Education and Culture, 2020), and to familiarize students with integrating internal work in scientific writing. Thus, this research not only broadens academic understanding of citation patterns but also provides a practical basis for improving the quality of student research in the future.

4. CONCLUSION

This study concludes that the integration of faculty research into undergraduate student theses within the Library and Information Science Study Program at the State Islamic University of North Sumatra (UINSU) remains considerably limited. From 1,634 reference entries analyzed across 50 theses, only eight citations referred to faculty scientific works representing approximately 0.48% of all references. This extremely low percentage demonstrates a weak link between research and teaching within the academic environment. Bibliometric visualization using VOSviewer revealed fragmented citation networks, a strong dependency on external sources, and the absence of cohesive internal citation clusters among faculty publications. These findings reinforce previous evidence from similar contexts (Sri Mulyani, 2024; Murni et al., 2024), suggesting that the underutilization of faculty research is a systemic issue across Indonesian higher education institutions. Theoretically, this study contributes to the growing body of knowledge on internal bibliometric mapping by highlighting how citation patterns reflect the depth of academic integration between lecturers and students. It also demonstrates that citation analysis can serve as a reliable indicator of research visibility, institutional knowledge circulation, and the functional strength of the Tridharma Perguruan Tinggi relationship between research, education, and community service.

Practically, the results imply the need for multi-level interventions to strengthen research–learning linkages within higher education institutions. First, study programs should introduce relevance-based citation policies that encourage students to cite at least one or two appropriate faculty publications in their theses, without compromising academic integrity. Second, libraries and academic units should collaboratively develop curated reading lists and digital showcases of faculty works, organized by research themes and methods, to facilitate easier access for students. Third, information literacy and reference management workshops focused on the use of Google Scholar, SINTA, and reference tools such as Zotero or Mendeley should be regularly conducted. Fourth, enhancing the digital visibility of faculty research through consistent metadata, repository indexing, and open access dissemination is crucial for improving citation accessibility and institutional impact. Finally, establishing an annual monitoring framework that tracks citation rates, identifies most-cited faculty members, and evaluates the integration of research outputs into the curriculum will ensure continuous academic improvement. These recommendations not only provide practical solutions for UINSU but also offer a replicable model for other higher education institutions seeking to cultivate a sustainable research ecosystem that connects faculty scholarship with student learning.

References

[1] H. F. Moed, Citation analysis in research evaluation, Springer, 2005.

[2] E. Garfield, Citation indexing: Its theory and application in science, technology, and humanities (Reprint), John Wiley & Sons, 2006.
[3] A. W. Harzing and R. van der Wal, "Google Scholar as a new source for citation analysis," Ethics in Science and Environmental Politics, vol. 8, no. 1, pp. 61–73, 2008. doi: 10.3354/esep00076.
[4] A. W. Harzing, Publish or Perish [Computer software]. Tarma Software Research. Available: https://harzing.com/resources/publish-or-perish, 2007.
[5] L. Hs, Kamus Kepustakawanan Indonesia, Pustaka Book Publisher, 2009.
[6] Fathurrahman, M., "Pentingnya arsip sebagai sumber informasi," JIPI (Jurnal Ilmu Perpustakaan dan Informasi), vol. 3, no. 2, pp. 215–224, 2018. Available: https://doi.org/10.2528/jipi.v3i2.215.
[7] Z. Kasiyan, M. B. Hendri, Z. Handoko, A. Sitompul, "Pelatihan penulisan karya ilmiah untuk peningkatan profesionalisme guru," Jurnal Pengabdian dan Pemberdayaan Masyarakat, vol. 3, no. 1, pp. 97–102, 2019. doi: 10.35134/jmi.v29i2.121.
[8] T. P. Nugrahanti, A. N. Qurtubi, R. Nazmi, L. Husnita, A. Zahruddin, "Pelatihan pencarian referensi penelitian di jurnal index Scopus dan pengenalan Mendeley Desktop untuk meningkatkan kualitas karya ilmiah mahasiswa," Journal of Human and Education, vol. 3, no. 2, pp. 585–591, 2023. Available: http://jahe.or.id/index.php/jahe/article/view/292.
[9] T. A. Laksmi and S. Sukaesih, "Repositori institusi dan akses terbuka: Strategi peningkatan aksesibilitas publikasi ilmiah," Jurnal Pustakawan Indonesia, vol. 17, no. 2, pp. 25–36, 2018.
[10] M. Makmur, R. Rukmini, A. Setyaningsih, A. A. Novyanti, G. N. Fauziah, "Pemanfaatan Google Scholar dalam mendukung persiapan sistem pembelajaran e-learning di Politeknik Ilmu Pelayaran Makassar," Jurnal Venus, vol. 6, no. 12, pp. 110–129, 2021. doi: 10.48192/vns.v12i06.388.
[11] V. Mandailina, D. Pramita, R. Rahmaniah, H. Ratu, P. Negara, P. Matematika, U. M. Mataram, T. Informatika, U. B. Mataram, S. Ilmiah, S. Mendeley, S. Dosen, "Sitasi karya ilmiah dosen melalui workshop," Jurnal Pengabdian Masyarakat, vol. 2, no. 1, pp. 8–13, 2021.
[12] R. Maya and M. Sarbini, "Analisis publikasi ilmiah dosen STAI Al-Hidayah dalam profil Google Scholar," Khidmatul Ummah: Jurnal Pengabdian Kepada Masyarakat, vol. 4, no. 1, pp. 1–16, 2023.
[13] S. Mulyani, "Analisis sitasi karya ilmiah dosen Program Studi Sejarah dan Kebudayaan Islam Fakultas Adab dan Humaniora UIN Ar-Raniry Banda Aceh dalam skripsi mahasiswa," [Skripsi, UIN Ar-Raniry Banda Aceh]. UIN Ar-Raniry Repository. Available: https://repository.ar-raniry.ac.id/id/eprint/39614/, 2024.
[14] H. Murni, N. Sudiar, H. Latiar, "Analisis sitasi karya ilmiah dosen Universitas Muhammadiyah Riau pada Google Scholar," UNILIB: Jurnal Perpustakaan, vol. 15, no. 1, pp. 1–13, 2024. doi: 10.20885/unilib.vol15.iss1.art1.
[15] K. Tiara, U. Rahardja, I. A. Rosalinda, "Pemanfaatan Google Scholar dan citation dalam memenuhi kebutuhan pembuatan karya ilmiah," Technomedia Journal (TMJ), vol. 1, no. 1, pp. 95–113, 2016.
[16] N. J. van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping," Scientometrics, vol. 84, no. 2, pp. 523–538, 2010. doi: 10.1007/s11192-009-0146-3.
[17] I. Zupic and T. Čater, "Bibliometric methods in management and organization," Organizational Research Methods, vol. 18, no. 3, pp. 429–472, 2015. doi: 10.1177/1094428114562629.
[18] Visi-misi dan tujuan – prodi ilmu perpustakaan. [Online]. Available: ilmuperpustakaan.uinsu.ac.id.