

Fostering Digital Literacy Through SLiMS: A Narrative Literature Review

Rifan Humaidi¹, Mega Fariziah Nur Humairoh², Hikmatul Maghfiroh³

rifanhumaidi@uinkhas.ac.id, megafariziahnh@uinkhas.ac.id, hikmahfiroh22@gmail.com

State Islamic University Kiai Haji Achmad Siddiq Jember, Indonesia¹, State Islamic University Kiai Haji Achmad Siddiq Jember, Indonesia², State Islamic University Kiai Haji Achmad Siddiq Jember, Indonesia³

Abstract. The integration of digital library management systems plays a crucial role in fostering digital literacy and enhancing information accessibility. This study explores the impact of the Senayan Library Management System (SLiMS) in developing digital literacy skills through a narrative literature review of 20 scientific articles. The analysis identifies three key contributions of SLiMS: (1) enhanced access to digital resources, allowing users to develop advanced information retrieval skills; (2) improved digital competencies among librarians, facilitating efficient library management; and (3) increased user engagement, promoting collaborative learning through digital interactions. However, despite these advantages, challenges persist, including technical constraints, digital literacy gaps, and resource disparities among institutions. This study underscores the importance of comprehensive librarian training programs and the continuous development of user-friendly features to optimize SLiMS's role in digital literacy. The findings align with broader digital transformation theories in library sciences, reinforcing the significance of integrated digital platforms in shaping modern information literacy. Future research should explore the long-term impact of SLiMS on literacy rates and assess its adaptability across diverse educational and library environments.

Keywords: SLiMS, Digital Literacy, Library Management Systems, Information Access, Digital Libraries

1 Introduction

The 2022 *Programme for International Student Assessment (PISA)* report from the *Organization for Economic Cooperation and Development (OECD)* highlights a concerning trend in Indonesian students' literacy skills. With a reading score 359, significantly below the OECD average of 472-480, Indonesian students rank at level 1a on PISA's eight-level scale. That indicates that most can only comprehend the literal meaning of short texts[1]. While these results are concerning, they primarily measure traditional reading comprehension and may not fully capture students' emerging digital literacy capabilities. Integrating digital library systems like SLiMS creates new pathways for literacy development by providing interactive platforms that combine traditional reading with digital information skills[2].

The advent of the digital revolution has fundamentally transformed how information is accessed and consumed. Through the proliferation of e-books and online resources accessible

via computers, smartphones, and tablets, users now benefit from enhanced portability, space efficiency, and environmental sustainability [2]. This technological shift has expanded the definition of literacy, aligning with Devri Suherdi's concept of digital literacy. This framework emphasizes the critical abilities to find, evaluate, use, and create digital content wisely and appropriately[3]. Similarly, another study mentions that the definition of literacy has expanded beyond reading, writing and arithmetic to include visual expression and digital skills due to technological changes[4]. These technological advancements have thus redefined the literacy landscape, necessitating new approaches to reading, learning, and information management in the digital age.

In response to this digital transition, the Indonesian Ministry of Education, Culture, Research and Technology has developed the Senayan Library Management System (SLiMS), a web-based platform designed to support and enhance literacy culture. SLiMS has gained popularity in Indonesia and internationally, offering a comprehensive solution for digital library management. The platform features advanced search capabilities that allow users to develop sophisticated information retrieval skills through Boolean operators and filtering options. Its Online Public Access Catalog (OPAC) interface introduces users to digital taxonomy and metadata concepts, while the bibliographic management tools help users learn proper citation and reference management.

Additionally, SLiMS's social features, such as user reviews and ratings, encourage active engagement with digital content and collaborative learning. It streamlines librarians' tasks while providing users expanded online access to library collections [4]. By bridging traditional library functions with modern digital capabilities, SLiMS represents a significant step towards integrating technology into literacy development and library services. However, the adoption of such technology extends beyond mere implementation. It raises questions about how these systems can be leveraged to cultivate and reinforce a culture of literacy across various sectors of society. In the context of digital libraries, literacy encompasses traditional reading and writing skills and information literacy, which is the ability to search for, evaluate, and utilize information judiciously[5].

While numerous studies have documented SLiMS's technical capabilities and implementation processes, a significant gap exists in understanding its systematic impact on digital literacy development. Previous research has primarily focused on operational aspects and user satisfaction. However, limited attention has been paid to how SLiMS enhances digital literacy skills and fosters a sustainable literacy culture in different library contexts. Additionally, there is a lack of comprehensive analysis synthesizing evidence across multiple implementation cases to identify best practices and success factors in leveraging SLiMS for literacy development.

To address these gaps, this study aims to (1) evaluate SLiMS's role in enhancing digital literacy through systematic analysis of implementation cases, (2) identify effective practices and success factors in utilizing SLiMS for literacy development, and (3) provide evidence-based recommendations for optimizing its impact on digital literacy outcomes. Through a narrative literature review methodology examining 20 scientific articles, this research seeks to provide valuable insights into how library management systems like SLiMS can be effectively utilized to address the literacy challenges highlighted by the PISA report and prepare students for an increasingly digital world.

2 Method

This study employed a narrative literature review methodology to examine the role of the Senayan Library Management System (SLiMS) in fostering a digital literacy culture. Following Ford's [5] framework for narrative review, this methodology was selected for its systematic approach to synthesizing qualitative evidence while maintaining methodological rigor.

The literature search was conducted using structured search terms, including "Senayan Library Management System," "digital literacy," and "literacy culture," across multiple academic databases. To ensure contemporary relevance while maintaining academic quality, the search was restricted to peer-reviewed publications from 2016 to 2024. To minimize selection bias, two researchers independently screened articles using a standardized assessment form that evaluated methodological quality, relevance to research objectives, and validity of findings.

The inclusion criteria were systematically applied: (1) studies must directly address SLiMS implementation or features, (2) include measurable outcomes related to digital literacy, and (3) provide empirical evidence rather than theoretical discussion. From an initial pool of 45 articles, 20 were selected based on these predetermined quality assessment criteria. The selected articles underwent thorough analysis through systematic coding of findings, identification of recurring themes, and synthesis of evidence across studies. Articles that met the criteria were downloaded and analyzed more deeply, as in Table 1. The following explains the stages in detail.

2.1 Initial Retrieval and Screening (40 Articles in Table 1).

During the first phase, we retrieved a total of 45 articles from our database queries. After removing duplicates and excluding obviously off-topic titles/abstracts, 40 articles remained. These 40 articles are what you see in Table 1; they represent everything that passed the initial screening (for example, relevance to SLiMS and digital-literacy themes).

2.2 Final Selection (20 Articles Discussed in the Text).

In the next phase (the quality-assessment stage), each of those 40 was evaluated against our detailed inclusion criteria (peer-reviewed status, empirical evidence on SLiMS and digital literacy, and methodological rigor). Only 20 of those 40 met all criteria and were included in the narrative synthesis. Those 20 are the ones we cite in the analysis and discuss in Sections 3–4.

By clarifying this two-step process—(a) listing all 40 that passed the initial screening in Table 1, and then (b) narrowing to 20 after the full quality assessment—we ensure readers understand why more titles appear in the table than are actually analyzed later [5], [6].

Table 1. Compilation of Relevant Research Articles

No	Articles
1.	Friscela Yona Nagifea, Bambang Supriadi, Agustiningasih (2023). Optimalisasi Layanan E-Library Berbasis SLiMS Untuk Meningkatkan Literasi Siswa Pada Perpustakaan SMKN 6 Jember. JURNAL TECHNOPRENEUR, 11(2), 76-84.

No	Articles
2.	Zafirah Quroatun 'Uyun (2022). Strengthening Digital Literacy As An Effort To Build Librarian Skills In Providing Referral Options To Users. <i>JIPER (Jurnal Ilmu Perpustakaan)</i> , 4(2), 137-150.
3.	Zulfati Amelia Fani, Evi Nursanti Rukmana (2022). Penelitian penerapan SLiMS dalam pengolahan perpustakaan pada database Google Scholar: sebuah narrative literature review. <i>Informatio: Journal of Library and Information Science</i> , 2(1), 29-42.
4.	Asnawati, Indra Kanedi, Feri Hari Utami, Mirna, Saira Asmar (2023). Pemanfaatan Literasi Digital Di Dunia Pendidikan Era 5.0. <i>Jurnal Dehasen Untuk Negeri</i> , 2(1), 67-72.
5.	Nurchaili (2016). Menumbuhkan Budaya Literasi Melalui Buku Digital. <i>LIBRIA</i> , 8(2), 179-209
6.	Nadiah Nurulauni, Evi Nursanti Rukmana, Asep Saeful Rohman (2022). Pemanfaatan teknologi informasi pada layanan perpustakaan dengan senayan library management system (slims) (studi kasus: perpustakaan pribadi "andalus library"). <i>Pustaka Karya: Jurnal Ilmiah Ilmu Perpustakaan dan Informasi</i> , 10(2), 117-128.
7.	Ahdi Topan Sofyan, Pandu Adi Cakranegara, Purwo Agus Sucipto, Amrul Natalisa S, Era Sari Munthe (2022). Optimization Of SLiMS (Senayan Library Management System) In Improving The Performance Of Library Service In High School. <i>JURNAL INFOKUM</i> , 10(5), 78-86.
8.	Arief Ichwani, Muhammad Visal Bainuri (2022). E-Library Interaktif dengan SLiMS Bulian Menggunakan Metode RAD, <i>Jurnal Komputasi</i> , 10(2), 97-111.
9.	Iskandar, Luki Wujayanti (2022). Implementasi SLiMS di Perpustakaan Perguruan Tinggi. <i>Jurnal Ilmu Perpustakaan</i> , 4(2), 83-97.
10.	Rizqi Nusabbih Hidayatullah Gaja, Rahul Al Fatah Suripto (2023). Langkah-langkah migrasi SLiMS dari versi Cendana ke versi Bulian. <i>Al-Kuttab: Jurnal Kajian Perpustakaan, Informasi dan Kearsipan</i> , 5(2), 80–90.
11.	Saeful Amri, Khoirudin, A. Noer Adhi (2021). Manajemen SLiMS Perpustakaan Universitas Semarang. <i>Information Science and Library</i> , 2(1), 1-7.
12.	Nasrullah, Tawakkal, Nursalsabila (2022). Analisis Penggunaan Senayan Library Management System (SLiMS) di Perpustakaan Madrasah Aliyah Negeri 1 Majene Provinsi Sulawesi Barat. <i>Literatify: Trends in Library Developments</i> , 3(2), 99-111.
13.	Binti Nur Rohmah (2023). Manajemen Inovasi Pelayanan Perpustakaan Melalui Penerapan Aplikasi SLiMS (Senayan Library Management System) Dalam Meningkatkan Kepuasan Dan Literasi Siswa di MTsN 2 Kota Kediri. <i>Ulul Amri: Jurnal Manajemen Pendidikan Islam</i> , 2(2), 191-204.
14.	Qurratu Aini, Evi Nursanti Rukmana, Asep Saeful Rohman (2022). Penerapan Aplikasi Senayan Library Management System (SLiMS) dalam Pengelolaan Bahan Pustaka di Perpustakaan Sekolah. <i>BIBLIOTIKA: Jurnal Kajian Perpustakaan dan Informasi</i> , 6(1), 43-56.
15.	Desriyeni, Elva Rahmah (2020). Perpustakaan Sekolah Berbasis Teknologi Informasi Melalui Aplikasi Senayan Library Management System Di Kabupaten Pasaman. <i>Abdi Humaniora</i> , 1(2), 44-56.
16.	Rahmat Iqbal, Mezan El-Khaeri Kusuma, Irva Yunita, Aldy Gyan Dinasta (2020). Mobile Library: One Innovation of Literacy Information Reference. <i>LIBRIA</i> , 15(1), 20-46.

No	Articles
17.	Yeremia Victor Rondonuwu, Imanuel Zega, Mawar Hardiyanti, David Thanlian Kurniawan (2024). Implementasi Sistem Informasi Perpustakaan SLiMS di Universitas Pignatelli Triputra. <i>Community Development Journal</i> , 5(2), 3292-3296.
18.	Kamaluddin Mantasa, Mawar, La Ode Rusadi, Abdul Wahid (2024). Penerapan Aplikasi Senayan Library Management System (SLiMS) dalam Meningkatkan Pelayanan Informasi Pengguna di Perpustakaan FISIP UIM. <i>Jurnal Abdimas Indonesia</i> , 4(2), 636-648.
19.	Siti Khotijah, Mohammad Syahidul Haq (2024). Pengembangan Digital Library Berbasis SLiMS 9 Bulian (Senayan Library Management System) dalam Pengolahan Bahan Pustaka di SD Laboratorium UNG. <i>Journal Edu Learning</i> , 3(1), 55-68.
20.	Meri Mayang Sari, Ilamsyah, Lutfi Fatmawati (2023). Pemanfaatan Aplikasi SLiMS (Senayan Library Management System) pada Perpustakaan Universitas Raharja. <i>CICES</i> , 9(1), 102-112.
21.	Friscela Yona Nagifea, Bambang Supriadi, Agustiniingsih (2023). Optimization of SLiMS-Based E-Library Services to Improve Student Literacy at the SMKN 6 Jember Library. <i>TECHNOPRENEUR JOURNAL</i> , 11(2), 76-84.
22.	Zafirah Quroatun 'Uyun (2022). Strengthening Digital Literacy as an Effort to Build Librarian Skills in Providing Referral Options to Users. <i>JIPER (Jurnal Ilmu Perpustakaan)</i> , 4(2), 137-150.
23.	Zulfati Amelia Fani, Evi Nursanti Rukmana (2022). Research on the application of SLiMS in library processing on the Google Scholar database: a narrative literature review. <i>Informatio: Journal of Library and Information Science</i> , 2(1), 29-42.
24.	Asnawati, Indra Kanedi, Feri Hari Utami, Mirna, Saira Asmar (2023). Utilization of Digital Literacy in the World of Education in the 5.0 Era. <i>Dehasen Journal for the Country</i> , 2(1), 67-72.
25.	Nurchaili (2016). Cultivating a Culture of Literacy Through Digital Books. <i>LIBRIA</i> , 8(2), 179-209
26.	Nadiah Nurulauni, Evi Nursanti Rukmana, Asep Saeful Rohman (2022). Utilization of information technology in library services with the Senayan Library Management System (SLiMS) (case study: private library "Andalus Library"). <i>Pustaka Karya: Scientific Journal of Library and Information Science</i> , 10(2), 117-128.
27.	Ahdi Topan Sofyan, Pandu Adi Cakranegara, Purwo Agus Sucipto, Amrul Natalsa S, Era Sari Munthe (2022). Optimization of SLiMS (Senayan Library Management System) in Improving the Performance of Library Service in High School. <i>INFOKUM JOURNAL</i> , 10(5), 78-86.
28.	Arief Ichwani, Muhammad Visal Bainuri (2022). Interactive E-Library with SLiMS Bulian Using RAD Method, <i>Journal of Computing</i> , 10(2), 97-111.
29.	Iskandar, Luki Wujayanti (2022). Implementation of SLiMS in College Libraries. <i>Journal of Library Science</i> , 4(2), 83-97.
30.	Rizqi Nusabbih Hidayatullah Gaja, Rahul Al Fatah Surtipto (2023). Steps for migrating SLiMS from the Cendana version to the Bulian version. <i>Al-Kuttab: Journal of Library, Information and Archival Studies</i> , 5(2), 80-90.
31.	Saeful Amri, Khoirudin, A. Noer Adhi (2021). SLiMS Management of Semarang University Library. <i>Information Science and Library</i> , 2(1), 1-7.
32.	Nasrullah, Tawakkal, Nursalsabila (2022). Analysis of the Use of the Senayan Library Management System (SLiMS) in the Library of State Islamic High School 1 Majene, West Sulawesi Province. <i>Literatify: Trends in Library Developments</i> , 3(2),

No	Articles
	99-111.
33.	Binti Nur Rohmah (2023). Library Service Innovation Management Through the Implementation of the SLiMS (Senayan Library Management System) Application in Increasing Student Satisfaction and Literacy at MTsN 2 Kediri City. <i>Ulul Amri: Journal of Islamic Education Management</i> , 2(2), 191-204.
34.	Qurratu Aini, Evi Nursanti Rukmana, Asep Saeful Rohman (2022). Implementation of the Senayan Library Management System (SLiMS) Application in Managing Library Materials in School Libraries. <i>BIBLIOTIKA: Journal of Library and Information Studies</i> , 6(1), 43-56.
35.	Desriyeni, Elva Rahmah (2020). Information Technology-Based School Libraries Through the Senayan Library Management System Application in Pasaman Regency. <i>Abdi Humaniora</i> , 1(2), 44-56.
36.	Rahmat Iqbal, Mezan El-Khaeri Kusuma, Irva Yunita, Aldy Gyan Dinasta (2020). Mobile Library: One Innovation of Literacy Information Reference. <i>LIBRIA</i> , 15(1), 20-46.
37.	Yeremia Victor Rondonuwu, Imanuel Zega, Mawar Hardiyanti, David Thanlian Kurniawan (2024). Implementation of the SLiMS Library Information System at Pignatelli Triputra University. <i>Community Development Journal</i> , 5(2), 3292-3296.
38.	Kamaluddin Mantasa, Mawar, La Ode Rusadi, Abdul Wahid (2024). Implementation of the Senayan Library Management System (SLiMS) Application in Improving User Information Services at the FISIP UIM Library. <i>Indonesian Community Service Journal</i> , 4(2), 636-648.
39.	Siti Khotijah, Mohammad Syahidul Haq (2024). Development of a Digital Library Based on SLiMS 9 Bulian (Senayan Library Management System) in Processing Library Materials at UNG Laboratory Elementary School. <i>Journal Edu Learning</i> , 3(1), 55-68.
40.	Meri Mayang Sari, Ilamsyah, Lutfi Fatmawati (2023). Utilization of the SLiMS (Senayan Library Management System) Application at the Raharja University Library. <i>CICES</i> , 9(1), 102-112.

Data collection techniques by analyzing 20 scientific articles from various journal publications. The researchers used a two-stage data collection procedure based on the eight journals. This procedure includes screening titles to abstracts, removing irrelevant publications, and reading the text thoroughly to identify studies that meet the eligibility criteria. [6] After That, the researcher confirmed that the researcher confirmed that the eight journals were used to obtain complete data, including author name, year of publication, edition, and page number, as well as journal type. The researcher then applied the method to analyze data from the eight related journals by using Mendeley Reference Desktop. Then, it performs the data extraction by combining data based on the categories of research subjects, research methods, and research results into a table.

The data analysis followed a systematic three-phase approach. All selected articles were imported into Mendeley Reference Desktop for organization and initial coding in the first phase. The second phase involved detailed thematic analysis using a structured coding framework. This framework categorized findings into four dimensions: SLiMS implementation processes, digital literacy outcomes, user engagement metrics, and

institutional impact. In the final phase, cross-article synthesis was conducted to identify patterns and relationships between themes.

The coding process utilized both deductive and inductive approaches. Initial codes were derived from the research objectives, while additional codes emerged during analysis. Two researchers independently coded the articles, with an inter-coder reliability check performed to ensure consistency. Data extraction was systematically documented in a standardized matrix that captured key information, including research methods, sample characteristics, primary findings, and reported outcomes. This matrix facilitated comparative analysis across studies and helped identify recurring patterns and divergent findings.

The extracted data were systematically categorized according to methodological approaches used in each study, types of digital literacy interventions implemented, measured outcomes and success indicators, implementation challenges and solutions, and recommendations for practice.

3 Result

The analysis of 20 scientific articles reveals findings that directly address our research objectives regarding SLiMS's role in enhancing digital literacy. In evaluating SLiMS's impact on digital literacy development, the studies demonstrate three key contributions: improved information access capabilities among users, enhanced digital competencies among librarians, and increased engagement with digital resources. Regarding effective implementation practices, the research identifies successful strategies such as structured training programs, gradual feature adoption, and continuous technical support. These findings provide evidence-based recommendations for optimizing SLiMS's impact on digital literacy development through targeted interventions and feature enhancements.

Information technology has significantly changed various aspects of life, including literacy and libraries. The development of digital libraries has become a solution to address the challenges of accessibility and efficiency in managing information sources in the digital era. One of the systems that plays an important role in managing digital libraries is *the Senayan Library Management System (SLiMS)* [7], an open-source software designed to facilitate the management of library collections, from cataloging and circulation to providing information to users. This study analyzed 20 scientific articles related to the role and application of SLiMS in library management in various institutions. The table below presents the findings from the 20 scientific articles that have been analyzed. The findings present an overview of the impact of SLiMS on digital literacy and library management.

Table 2. Research Themes/Topics and Findings in Research

No	Writer		Research Theme/Topic		Findings in Research
1.	Friscela Nagifea,	Yona	Optimalisasi E-Library	Layanan Berbasis	Optimizing the SMKN 6 Jember library into an E-Library provides

No	Writer	Research Theme/Topic	Findings in Research
	Bambang Supriadi, Agustiningsih (2023) [6]	SLiMS untuk meningkatkan Literasi Siswa di perpustakaan SMKN 6 Jember	many benefits and positive impacts for library managers and users, such as increasing access and convenience, interest in reading, and digital literacy.
2.	Zafirah Quroatun 'Uyun (2022) [8]	Strengthening Digital Literacy as An Effort To Build Librarian Skills In Providing Referral Options To Users.	Digital literacy is crucial for librarians in the current era of digital transformation. Librarians with digital skills can provide more effective services and help users access information.
3.	Zulfati Amelia Fani, Evi Nursanti Rukmana (2022) [8]	Penelitian penerapan SLiMS dalam pengolahan perpustakaan pada database Google Scholar: sebuah narrative literature review.	SLiMS is widely used in libraries, especially college libraries and public/city libraries. Findings show that SLiMS improves librarians' work efficiency and makes it easier for users to access information.
4.	Asnawati, Indra Kanedi, Feri Hari Utami, Mirna, Saira Asmar (2023) [9]	Pemanfaatan Literasi Digital di Dunia Pendidikan Era 5.0	Digital Literacy Training at SMKN 1 Kepahiang has succeeded in helping students understand how digital literacy can help them study various fields such as agriculture, medicine, and security.
5.	Nurchaili (2016) [3]	Pentingnya menumbuhkan budaya literasi melalui buku digital	Digital books have various advantages that can help improve digital literacy. The ease of using digital books is that they can be accessed very easily, anytime and anywhere. In addition, digital books also have more engaging and interactive multimedia content compared to conventional books.
6.	Nadiah Nurulauni, Evi Nursanti Rukmana, Asep Saeful Rohman	Pemanfaatan Teknologi Informasi dalam layanan Perpustakaan dengan Senayan Library	SLiMS provides many benefits for library managers, including understanding and using the system, time efficiency, and energy savings. However, lack of managerial mastery

No	Writer	Research Theme/Topic	Findings in Research
	(2022) [10]	Management System (SLiMS)	and technical problems in using SLiMS are obstacles that often occur.
7.	Ahdi Topan Sofyan, Pandu Adi Cakranegara, Purwo Agus Sucipto, Amrul Natalisa S, Era Sari Munthe (2022). [11]	Optimasi SLiMS (Senayan Library Management System) untuk meningkatkan kinerja layanan perpustakaan di tingkat SMA	SLiMS has proven effective in automating various library administration tasks such as cataloging, collection management, inventory, and member management. Implementing SLiMS has also increased the interest of library visitors and students in reading. It is because SLiMS makes it easier to access information and speeds up the process of borrowing books.
8.	Arief Ichwani, Muhammad Visal Bainuri (2022) [12]	Pengembangan E-Library interaktif menggunakan SLiMS Bulian dan metode RAD (Rapid Application Development) untuk meningkatkan budaya literasi di sekolah.	SLiMS Bulian can be used to build a more comprehensive and interactive electronic library (E-Library) by using the discussion forum feature, which can increase user interaction. In the process of developing an E-Library, using the RAD method has proven to be quite effective.
9.	Iskandar, Luki Wijayanti (2022) [13]	Implementasi SLiMS di Perguruan Tinggi	SLiMS facilitates borrowing and returning books, circulation, extending loans and membership periods, searching for information via OPAC, and inputting library material catalogues.
10.	Rizqi Nusabbih Hidayatullah Gaja, Rahul Al Fatah Suripto (2023) [14]	Migrasi aplikasi SLiMS dari versi Cendana ke versi Bulian	Migration from the Cendana Version to the Bulian Version indirectly improves the efficiency of librarians' work because the Bulian version is more stable and smoother. This affects not only librarians but also users.
11.	Saeful Amri, Khoirudin, A. Noer Adhi (2021) [15]	Manajemen SLiMS di Perpustakaan Universitas Semarang	SLiMS allows users to search and find information with online access to the library catalog (OPAC). In addition, librarians can automate

No	Writer	Research Theme/Topic	Findings in Research
			various library administration tasks, such as inventory, cataloging, collection management, and member management.
12.	Nasrullah, Tawakkal, Nursalsabila (2022) [16]	Analisis Penggunaan Senayan Library Management System (SLiMS) di Perpustakaan Madrasah Aliyah Negeri 1 Majene Provinsi Sulawesi Barat	The use of SLiMS has the potential to improve library users' access to information. It can also encourage a culture of digital literacy in the library because library users will be accustomed to using technology to access information in the library.
13.	Binti Nur Rohmah (2023) [18]	Manajemen Inovasi Layanan Perpustakaan Melalui penerapan Aplikasi SLiMS (Senayan Library Management System) dalam Meningkatkan Kepuasan dan Literasi siswa di MTsN 2 Kota Kediri	The SLiMS application makes it easier for students to search for books they want to read. Other features make student activities in the library more effective. The innovations mentioned can increase students' interest in reading by making them more interested in visiting the library.
14.	Qurratu Aini, Evi Nursanti Rukmana, Asep Saeful Rohman (2022) [19]	Penerapan Aplikasi Senayan Library Management System (SLiMS) dalam Pengelolaan Bahan Pustaka di Perpustakaan Sekolah	The SLiMS application helps speed up the processing of library material collections, such as bibliographic data input, classification, and title determination. SLiMS also makes it easier for users to find the information they need because SLiMS provides a retrieval system that is easy to access through the OPAC.
15.	Desriyeni, Elva Rahmah(2020) [20]	Perpustakaan Sekolah Berbasis Teknologi Informasi Melalui Aplikasi Senayan Library Management System Di Kabupaten	This SLiMS application allows managers to input bibliography, namely book inventory, authors, titles, book covers, and ISBNs. In addition, managers can create barcodes, report existing collections,

No	Writer	Research Theme/Topic	Findings in Research
		Pasaman	and manage membership. With this SLiMS, book arrangements can be more organized and systematic, which can attract readers' interest.
16.	Rahmat Iqbal, Mezan El-Khaeri Kusuma, Irva Yunita, Aldy Gyan Dinasta (2020) [18]	Peran Mobile Library sebagai inovasi dalam meningkatkan literasi informasi.	SLiMS is another option for mobile libraries. Library managers use SLiMS as a technological innovation to reach and present a reading culture in every environment throughout the archipelago.
17.	Yeremia Victor Rondonuwu, Imanuel Zega, Mawar Hardiyanti, David Thanlian Kurniawan (2024) [22]	Implementasi Sistem Informasi Perpustakaan (SIP) berbasis SLiMS (Senayan Library Management System) di Universitas Pignatelli Triputra.	SLiMS helps users find information with online access to the library catalog (OPAC). This application can also improve efficiency and automation in carrying out library administration tasks. In addition, SLiMS can improve the quality of library services, which can ultimately encourage a culture of digital literacy in the library.
18.	Kamaluddin Mantasa, Mawar, La Ode Rusadi, Abdul Wahid (2024) [23]	Penerapan Aplikasi Senayan Library Management System (SLiMS) dalam meningkatkan layanan informasi pengguna di Perpustakaan FISIP UIM.	The implementation of the SLiMS Application in the FISIP UIM Library has built a culture of student literacy in the digital library, with online access to collections of student scientific works (theses and dissertations) and other information.
19.	Siti Khotijah, Mohammad Syahidul Haq (2024) [24]	Pengembangan dan Pengujian kelayakan Aplikasi SLiMS 9 Bulian (Senayan Library Management System) sebagai sistem otomasi di perpustakaan digital di SD Laboratorium UNG	After testing the SLiMS application, it was proven that this application is suitable for use as an automation system for library administration tasks at SD Laboratorium UNG. Some benefits of implementing SLiMS 9 Bulian are reducing manual errors, facilitating the book circulation process, increasing the efficiency and effectiveness of library material processing, and providing

No	Writer	Research Theme/Topic	Findings in Research
			online access to book collections for students. That can indirectly build a literacy culture in digital libraries.
20.	Meri Mayang Sari, Ilamsyah, Lutfi Fatmawati (2023) [25]	Pemanfaatan Aplikasi (Senayan Library Management System) pada Perpustakaan Universitas Raharja.	The SLiMS application helps speed up work such as collecting visitor and borrower data, creating barcodes, and searching for books/references for college assignments. This application also increases work effectiveness by helping to minimize manual errors and speeding up library collection inventory.

From the table above, it can be seen that the use of SLiMS has a significant impact on various aspects of the library. Several scientific articles show that SLiMS improves the efficiency of librarians' work and allows users to easily access information. In addition, utilizing this application increases digital literacy among students and librarians. Therefore, the SLiMS application is one of the important solutions for building a culture of literacy in digital libraries.

Based on the information provided, this study explores the role of the Senayan Library Management System (SLiMS) in building a culture of literacy in digital libraries. The study results indicate that SLiMS accelerates library administration tasks and encourages users' digital literacy. With the advancement of digital technology, access to information has become more manageable, and SLiMS helps manage library collections digitally.

4 Discussion

The use of SLiMS in libraries has been proven to improve librarians' work efficiency and facilitate information access for users. This application contributes to increasing digital literacy among students and librarians, which is important in building a literacy culture in digital libraries. Suggestions for implementing SLiMS include intensive training for librarians and developing attractive features for users. This study aims to provide insight into the best strategies for utilizing technology to improve literacy in the digital era. The analysis of 20 scientific articles reveals several key themes regarding the role of SLiMS in developing a culture of digital literacy:

3.1 Enhanced Accessibility and Efficiency

The transformation of library accessibility through SLiMS manifests beyond the simple digitization of catalogs. The system creates an integrated digital ecosystem where accessibility and efficiency are mutually reinforced. SLiMS comes with various features that support

comprehensive digital library management. Features such as bibliographic data management, cataloging systems, user management, and digital circulation services are key to helping librarians and libraries manage their duties effectively. Friscela Yona Nagifea et al. [7] reported that optimizing the school library into an E-Library using SLiMS provided many benefits, including increasing user access and convenience. It fundamentally transforms user-library interactions, developing advanced information retrieval skills while streamlining access processes. Notably, the efficiency gains reported by Zulfati Amelia Fani and Evi Nursanti Rukmana [9] noted that SLiMS improves librarians' work efficiency and makes it easier for users to access information. SLiMS enables librarians to shift focus from routine tasks to more strategic activities like digital literacy instruction and personalized user guidance.

Several studies highlighted the integration with other technologies, such as OPAC (*Online Public Access Catalog*). For instance, Iskandar and Luki Wijayanti[14] found that SLiMS facilitates services such as borrowing and returning books, circulation, and searching for information via OPAC. This ease of access and improved efficiency contribute significantly to build a culture of digital literacy as shown by Goel et al.[26]. It creates a seamless digital environment that shapes users' information-seeking behaviors and digital competencies.

3.2 Expanded Digital Collection and Access

The impact of SLiMS on digital collections represents a paradigm shift in how libraries conceptualize and deliver information resources. SLiMS allows libraries to add digital collections in the form of e-books, electronic journals, and other relevant reference materials, which users can access anytime and anywhere. Nurchaili [1] emphasized that digital books have various advantages that can help improve digital literacy, including easy access anytime and anywhere and more interesting and interactive multimedia content than conventional books. The transition to digital collections through SLiMS expands access and fundamentally changes how users interact with content. The system's ability to handle diverse digital formats - from e-books to multimedia resources - creates rich learning environments that cater to different learning styles and preferences. The implementation of SLiMS, as noted by Kamaluddin Mantasa et al.[23], has built a culture of student literacy in digital libraries with online access to collections of student scientific works (thesis, dissertation) and other information. It highlights how SLiMS transforms academic libraries by integrating various scholarly resources and creating comprehensive digital research environments that enhance academic literacy practices. Thus, SLiMS helps expand access to literature and information previously limited to library physical collections. Expanded access to digital collections addresses the need for more diverse and accessible information sources[27], which is crucial for developing digital literacy skills in the modern era.

3.3 Fostering a Culture of Digital Literacy

SLiMS's impact on digital literacy transcends mere technical support, driving a broader cultural shift toward informed engagement. By facilitating seamless access to diverse and high-quality resources, SLiMS cultivates a culture of literacy—defined as the ability to locate, interpret, and critically apply information in daily life. As users gain easier entry to digital collections, they are more inclined to explore and engage with a wider array of literature[28], ultimately reinforcing their skills in evaluating and integrating information. Binti Nur Rohmah

[18] found that the SLiMS application makes it easier for students to search for books they want to read, leading to increased student interest in visiting the library and improved reading habits. It demonstrates how the system catalyzes behavioral changes in library usage patterns, with increased user engagement directly correlating with improved digital literacy skills. Similarly, Ahdi Topan Sofyan et al. [12] reported increased library visitors and students' interest in reading following the implementation of SLiMS. This cultural shift manifests in quantitative metrics (increased library visits) and qualitative changes in how users approach information-seeking and evaluation. These findings suggest that SLiMS facilitates access to information and actively encourages engagement with library resources, contributing to the development of a digital literacy culture.

3.4 Comparative Impact Analysis: Patterns and Contradictions

Analysis across the 20 articles reveals distinct patterns regarding SLiMS's differential impact on various stakeholders. A notable pattern emerges, showing that SLiMS has a more immediate and substantial impact on librarian skills than student literacy development. It is evidenced in multiple studies: Zafirah Quroatun 'Uyun [8] emphasized immediate improvements in librarians' digital competencies, while Nadiah Nurulauni et al. [11] reported significant efficiency gains in library management tasks. In contrast, studies focusing on student literacy outcomes, such as Friscela Yona Nagifea et al. [7] and Binti Nur Rohmah [18], indicate more gradual and indirect improvements in student literacy levels.

Several contradictions also emerged from the analysis. While most studies report positive outcomes, there are inconsistencies in implementation success rates. For instance, some institutions reported seamless integration and immediate benefits (Siti Khotijah and Mohammad Syahidul Haq [29]), while others faced significant technical and adaptation challenges [11]. Institutional readiness, staff training levels, and technical support availability primarily influence these contradictions.

The analysis also revealed an interesting pattern regarding the evolution of SLiMS's impact over time. Earlier studies (2016-2020) primarily focused on technical implementation, while more recent research (2021-2024) increasingly emphasizes its role in digital literacy development. This shift suggests a maturing understanding of SLiMS's potential beyond its essential library management functions.

3.5 Challenges and Opportunities in Implementation

While most studies reported positive outcomes, some challenges were also identified in implementing SLiMS. Nadiah Nurulauni et al. [11] pointed out that lack of managerial mastery and technical problems in using SLiMS are often obstacles. That highlights the need for comprehensive training programs for library staff to ensure effective implementation of the system. On the other hand, studies like that of Siti Khotijah and Mohammad Syahidul Haq [29] demonstrated that after proper testing and implementation, SLiMS proved suitable as an automation system for library administration tasks, reducing manual errors and increasing efficiency. These findings underscore the importance of careful planning, adequate training, and ongoing support in successfully implementing SLiMS to build a culture of digital literacy.

To address the technical challenges identified by Nadiah et al., several specific interventions are recommended: (1) Development of structured, module-based training programs that

progress from essential to advanced SLiMS features, (2) Implementation of peer learning systems where experienced librarians mentor newcomers, (3) Creation of troubleshooting guides tailored to common technical issues, and (4) Regular system audits to identify and address potential technical barriers before they impact service delivery[11].

3.6 Broader Implications and User Experience

The impact of SLiMS extended beyond individual libraries to influence broader educational and social outcomes. In educational settings, as Haleem et al. demonstrated, the system's integration capabilities supported curriculum development through enhanced access to digital resources[30]. At the community level, Anwar et al.[31] and Aditia et al.[32] found that SLiMS's user-friendly interface effectively promoted digital literacy among diverse user groups. Labibah et al. further supported this, who reported increased library visits and improved student engagement following SLiMS implementation[33]. Gunawan et al. documented how SLiMS implementation successfully built student literacy culture through online access to academic collections[34]. Additionally, Hussain and Ameen demonstrated that SLiMS implementation reduced manual errors and increased efficiency in library material processing, leading to improved service delivery[35].

5 Conclusion

This systematic analysis demonstrates SLiMS's multifaceted impact on digital literacy development. Our findings reveal that SLiMS enhances library operations through improved cataloging systems, efficient circulation processes, and expanded digital resource access. The transformation of user engagement is evident through increased library visits and improved digital resource utilization patterns. The system's effectiveness in fostering digital literacy is demonstrated through enhanced information retrieval capabilities, improved digital navigation skills, and increased user engagement with digital resources. This dual impact on library management and user experience contributes substantially to developing digital literacy skills among library patrons.

It should be noted that this review has inherent limitations, as it only covers peer-reviewed publications between 2016-2024. The narrative literature review approach may have introduced subjectivity in study selection and interpretation. Moreover, the predominant focus on educational institutions limits our understanding of SLiMS's impact in other library contexts. Based on the implementation challenges identified in our analysis, libraries implementing SLiMS should prioritize comprehensive training programs for librarians to address technical and managerial barriers. Developing user-centric features and regular system maintenance are crucial for optimal performance. Additionally, establishing robust technical support systems and standardized implementation guidelines could help overcome common challenges encountered during implementation.

While SLiMS demonstrates clear potential in fostering digital literacy, its successful implementation requires systematic planning, ongoing support, and regular evaluation. The system's future development should address identified challenges while adapting to evolving technological landscapes and user needs.

Acknowledgement

We want to express our gratitude to God Almighty for all His grace and gifts so that this research entitled *The Role of Senayan Library Management System (SLiMS) Technology in Building a Culture of Literacy in Digital Libraries* can be completed properly. This research would not have been possible without the support and assistance of various parties. Therefore, the researcher would like to thank the family, which always provides prayers, motivation, and support. Colleagues and colleagues who have patiently provided input, suggestions, and encouragement during this research. To the supervisor, who has continuously provided guidance, criticism, and constructive suggestions to improve and perfect this research. All related parties, who cannot be mentioned individually, have played an important role in supporting the smooth running of this research. The researcher realizes that this research is still far from perfect. Therefore, we are very open to criticism and suggestions for future improvements. Hopefully, this research can benefit the development of digital literacy and library management in Indonesia.

References

- [1] N. Nurchaili, "Menumbuhkan Budaya Literasi Melalui Buku Digital," *Libr. Libr. UIN Ar-Raniry*, vol. 8, no. 2, pp. 197–209, 2016, doi: <https://dx.doi.org/10.22373/1211>.
- [2] O. Onunka and T. Onunka, "Transforming library systems in Africa: advancing literacy and cultural preservation through digital innovation," *World J. Adv. Res. Rev.*, vol. 24, no. 01, pp. 1660–1671, 2024, doi: <https://doi.org/10.30574/wjarr.2024.24.1.3168>.
- [3] Nurchaili, "LIBRIA: Volume 8, Nomor 2: Desember 2016 197," *Menu. Budaya Literasi Melalui Buku Digit.*, vol. 8, pp. 197–209, 2016.
- [4] B. Zua, "Redefining Literacy: Nigeria in Perspective," *Adv. Soc. Sci. Res. J.*, vol. 9, no. 7, pp. 338–346, Jul. 2022, doi: [10.14738/assrj.97.12645](https://doi.org/10.14738/assrj.97.12645).
- [5] M. Tomar, "Assessing Information Literacy Programs in Academic Libraries: A Comprehensive Review," *Int. J. Inf. Stud.*, vol. 15, no. 4, pp. 108–118, Oct. 2023, doi: [10.6025/ijis/2023/15/4/108-118](https://doi.org/10.6025/ijis/2023/15/4/108-118).
- [6] T. F. Frandsen, K. M. Sørensen, and L. F. Anne, "Library stories: a systematic review of narrative aspects within and around libraries," *J. Doc.*, vol. 77, no. 5, pp. 1128–1141, Jan. 2021, doi: [10.1108/JD-10-2020-0182](https://doi.org/10.1108/JD-10-2020-0182).
- [7] F. Y. Nagifea, "OPTIMALISASI LAYANAN E-LIBRARY BERBASIS SLiM UNTUK MENINGKATKAN LITERASI SISWA PADA PERPUSTAKAAN SMKN 6 JEMBER," *J. Technopreneur*, vol. 11, no. 2, pp. 76–84, 2023, doi: [10.30869/jtech.v11i2.1250](https://doi.org/10.30869/jtech.v11i2.1250).
- [8] Z. Q. Uyun, "Strengthening Digital Literacy as an Effort to Build Librarian Skills in Providing Referral Options to Users," *J. Ilmu Perpust.*, vol. 4, no. 2, pp. 137–150, 2022, doi: <https://doi.org/10.31764/jiper.v4i2.11106>.
- [9] Z. A. Fani and E. N. Rukmana, "Penelitian penerapan SLiMS dalam pengolahan perpustakaan pada database Google Scholar: sebuah narrative literature review," *Informatio J. Libr. Inf. Sci.*, vol. 2, no. 1, p. 29, 2022, doi: [10.24198/inf.v2i1.37428](https://doi.org/10.24198/inf.v2i1.37428).
- [10] A. Asnawati, I. Kanedi, F. H. Utami, M. Mirna, and S. Asmar, "Pemanfaatan Literasi Digital Di Dunia Pendidikan Era 5.0," *J. Dehasen Untuk Negeri*, vol. 2, no. 1, pp. 67–

72, 2023, doi: 10.37676/jdun.v2i1.3489.

- [11] N. Nurulauni, E. N. Rukmana, and A. S. Rohman, "Pemanfaatan teknologi informasi pada layanan perpustakaan dengan senayan library management system (slims) (studi kasus: perpustakaan pribadi 'andalus library')," *Pustaka Karya J. Ilm. Ilmu Perpust. dan Inf.*, vol. 10, no. 2, p. 117, 2022, doi: 10.18592/pk.v10i2.5944.
- [12] A. T. Sofyan, P. A. Cakranegara, P. A. Sucipto, A. S. Natalsa, and E. S. Munthe, "Optimization of Slims (Senayan Library Management System) in Improving the Performance of Library Service in High School," *Junal Infokum*, vol. 10, no. 5, pp. 78–86, 2022.
- [13] A. Ichwani and M. V. Bainuri, "© 2022 Ilmu Komputer Unila Publishing Network all rights reserved E-Library Interaktif dengan SLiMS Bulian Menggunakan Metode RAD © 2022 Ilmu Komputer Unila Publishing Network all rights reserved," vol. 10, no. 2, pp. 97–111, 2022.
- [14] I. Iskandar and L. Wijayanti, "IMPLEMENTASI SLiMS DI PERPUSTAKAAN PERGURUAN TINGGI," *J. Ilmu Perpust.*, vol. 4, no. 2, 2022, doi: 10.31764/jiper.v4i2.9225.
- [15] R. N. H. Gaja and R. A. F. Suripto, "Langkah-langkah migrasi SLiMS dari versi Cendana ke versi Bulian," *Al-Kuttab J. Kaji. Perpustakaan, Inf. dan Kearsipan*, vol. 5, no. 2, pp. 80–90, 2023, doi: 10.24952/ktb.v5i2.8872.
- [16] S. Amri, K. Khoirudin, and N. Prasetyo, "Manajemen SLiMS Perpustakaan Universitas Semarang," *Inf. Sci. Libr.*, vol. 2, no. 1, p. 1, 2021, doi: 10.26623/jisl.v2i1.3213.
- [17] N. Nasrullah, Tawakkal, and Nursalsabila, "Analisis Penggunaan Senayan Library Management System (Slims) di Perpustakaan Madrasah Aliyah Negeri 1 Majene Provinsi Sulawesi Barat," *Lit. Trends Libr. Dev.*, vol. 3, no. 2, pp. 99–111, 2022, doi: 10.24252/literatify.v3i2.31894.
- [18] B. N. Rohmah, M. P. Islam, U. Islam, N. Maulana, and M. Ibrahim, "Ulul Amri : Jurnal Manajemen Pendidikan Islam MANAJEMEN INOVASI PELAYANAN PERPUSTAKAAN MELALUI PENERAPAN APLIKASI SLiMS (SENAYAN LIBRARY MANAGEMENT SYSTEM) DALAM MENINGKATKAN KEPUASAN DAN LITERASI SISWA DI MTSN 2 KOTA KEDIRI Ulul Amri : Jurnal Manajemen," vol. 2, no. 2, pp. 191–204, 2023.
- [19] Q. Aini, "Penerapan Aplikasi Senayan Library Management System (SLiMS) dalam Pengelolaan Bahan Pustaka di Perpustakaan Sekolah," *BIBLIOTIKA J. Kaji. Perpust. dan Inf.*, vol. 6, no. 1, p. 43, 2022, doi: 10.17977/um008v6i12022p43-56.
- [20] D. Desriyeni and E. Rahmah, "Perpustakaan Sekolah Berbasis Teknologi Informasi Melalui Aplikasi Senayan Library Management System di Kabupaten Pasaman," *ABDI Hum. J. Pengabd. Masy. Bid. Hum.*, vol. 2, no. 1, pp. 44–56, 2020, doi: <https://doi.org/10.24036/abdihumaniora.v2i1.110705>.
- [21] R. Iqbal, M. E. Kusuma, I. Yunita, and A. G. Dinasti, "Mobile Library: One Inovation of Literacy Information Reference," *Libria*, vol. 15, no. 1, pp. 20–46, 2022.
- [22] Y. V. Rondonuwu, I. Zega, M. Hardiyanti, and D. T. Kurniawan, "IMPLEMENTASI SISTEM INFORMASI PERPUSTAKAAN SLiMS DI UNIVERSITAS PIGNATELLI TRIPUTRA," *Community Dev. J. J. Pengabd. Masy.*, vol. 5, no. 2, pp. 3292–3296, 2024.
- [23] K. Mantasa, M. Mawar, L. O. Rusadi, and A. Wahid, "Penerapan Aplikasi Senayan

- Library Management System (SLIMS) Dalam Meningkatkan Pelayanan Informasi Pengguna di Perpustakaan FISIP UIM,” *J. Abdimas Indones.*, vol. 4, no. 2, pp. 636–648, Jun. 2024, doi: 10.53769/jai.v4i2.791.
- [24] S. Khotijah and M. S. Haq, “Pengembangan Digital Library Berbasis SLims 9 Bulian (Senayan Library Management System) Dalam Pengolahan Bahan Pustaka,” vol. 3, 2024.
 - [25] M. M. Sari, I. Ilamsyah, and L. Fatmawati, “Pemanfaatan Aplikasi SLiMS (Senayan Library Management System) pada Perpustakaan Universitas Raharja,” *Cices*, vol. 9, no. 1, pp. 102–112, 2023, doi: 10.33050/cices.v9i1.2582.
 - [26] K. Goel, R. Sindhgatta, V. Ilavarasan, and A. K. Kar, “BUILDING A KNOWLEDGE SOCIETY: LEARNINGS FROM A DIGITAL LITERACY PROGRAM,” in *ECIS 2021 Research Papers*, 2021, vol. 121.
 - [27] R.-A. Montague, K. Reyes, and K. Meyer, “Nānā I Ke Kumu - Look to the Source,” *Sch. Libr. Worldw.*, vol. 26, no. 1, pp. 99–109, 2021, doi: <https://doi.org/10.29173/slw8247>.
 - [28] K. K. Kibithe and P. Naibei, “Unlocking the Power of Digital Libraries: A Comprehensive Review,” *Int. Res. J. Mod. Eng. Technol. Sci.*, vol. 05, no. 11, pp. 2270–2275, 2023, doi: <https://www.doi.org/10.56726/IRJMETS46652>.
 - [29] S. Khotijah and M. S. Haq, “Pengembangan Digital Library Berbasis Slims 9 Bulian (Senayan Library Management System) Dalam Pengolahan Bahan Pustaka,” *J. Edu Learn.*, vol. 3, no. 1, pp. 55–68, 2024.
 - [30] A. Haleem, M. Javaid, M. A. Qadri, and R. Suman, “Understanding the role of digital technologies in education: A review,” *Sustain. Oper. Comput.*, vol. 3, pp. 275–285, 2022, doi: <https://doi.org/10.1016/j.susoc.2022.05.004>.
 - [31] C. R. Anwar, F. Febriati, S. Mawarni, and M. A. Akhmad, “Enhancing Learning Accessibility through Digital Libraries: A Study on User Orientation, Resources, and Pedagogical Aspects,” *J. Edutech Undiksha*, vol. 12, no. 2, pp. 245–255, 2024, doi: <https://doi.org/10.23887/jeu.v12i2.69935>.
 - [32] Aditia, Rahmi, and H. Susianto, “Understanding iPusnas User Experience Among Students, Workers, and Housewives,” in *Leveraging Generative Intelligence in Digital Libraries: Towards Human-Machine Collaboration: 25th International Conference on Asia-Pacific Digital Libraries, ICADL 2023, Taipei, Taiwan, December 4–7, 2023, Proceedings, Part II*, 2023, pp. 12–29, doi: 10.1007/978-981-99-8088-8_2.
 - [33] L. Labibah, M. Marwiyah, N. S. Mudawamah, A. G. Puspita, and S. Anjarwati, “Community engagement through Library and Information Science teaching- learning activities at Islamic higher education in Indonesia,” *Berk. Ilmu Perpust. dan Inf.*, vol. 19, no. 2, pp. 184–194, Nov. 2023, doi: 10.22146/bip.v19i2.6879.
 - [34] D. C. Gunawan *et al.*, “Portable Library Automation Systems Implementation and Training in an Elementary School,” *J. Community Serv. Sustain. Empower.*, vol. 3, no. 02, pp. 31–37, 2024, doi: <https://doi.org/10.35806/jcsse.v3i2.415>.
 - [35] M. Hussain and L. Ameen, “Exploring the Automation Landscape in University Libraries of Khyber Pakhtunkhwa, Pakistan: Status, Problems and Implications,” *J. Acad. Librariansh.*, vol. 49, no. 6, p. 102787, 2023, doi: <https://doi.org/10.1016/j.acalib.2023.102787>.