Indonesian Student Research Journal
Vol. 1, No. 1, October 2026

Tacit Knowledge Transfer from Senior to Junior Laboratory Assistants: A Case Study of the Universitas Royal Laboratory

Ahmad Safri[1], Aldi Pratama Simamora[2], Bobby Marbun[3], Frendika Jenrado Saragih[4], Riswanda Imawan[5]
Fakultas Ilmu Komputer, Program Studi Sistem Informasi, Universitas Royal, Kisaran, Indonesia
jensaragih17@gmail.comEmail: [1]ahmadaafri@gmail.com, [2]aldypratamasimamora2002@gmail.com, [3]bbyymrbn11@gmail.com, [4]jensaragih17@gmail.com, [5]riswanda070705@gmail.com

Abstract: Knowledge management in higher education laboratory environments is an important aspect that determines operational sustainability and the quality of practicum services. This study aims to evaluate the ongoing knowledge transfer process and to design a comprehensive implementation of the SECI (*Socialization, Externalization, Combination, Internalization*) model at the Database Server Laboratory of Universitas Royal. This study employs a qualitative approach with a case study method, in which data were obtained through participatory observation and unstructured interviews. The evaluation results show that current knowledge transfer remains informal and highly dependent on individuals (*person-dependent*), maximizing only the *socialization* and *internalization* phases. As a solution, this study designs the implementation of the *externalization* phase through the creation of digital *logbook*s and technical *Standard Operating Procedure* (SOP) documents, which are then integrated into a centralized *knowledge base* based on the *cloud* (Google Workspace) as a manifestation of the *combination* phase. This study concludes that the full implementation of the SECI model can transform *tacit* knowledge, which is vulnerable to loss, into documented and sustainable explicit knowledge for laboratory assistants across generations.

Keywords: knowledge management, *tacit knowledge*, SECI model, *knowledge base*, laboratory assistants

Abstract: *Knowledge management in university laboratory environments is a critical aspect that determines operational continuity and the quality of practical learning services. This study aims to evaluate the current knowledge transfer process and design a comprehensive application of the SECI (Socialization, Externalization, Combination, Internalization) model at the Database Server Laboratory of Universitas Royal. The research employs a qualitative case study approach, with data collected through participatory observation and unstructured interviews. The evaluation results indicate that current knowledge transfer is informal and highly person-dependent, maximizing only the socialization and internalization phases. As a solution, this study designs the application of the externalization phase through the creation of digital logbooks and technical Standard Operating Procedures (SOPs), which are then integrated into a centralized, cloud-based knowledge base (Google Workspace) representing the combination phase. This study concludes that the full implementation of the SECI model can transform vulnerable tacit knowledge into documented and sustainable explicit knowledge for cross-generational laboratory assistants.*

Keywords: knowledge management, tacit knowledge, SECI model, knowledge base, laboratory assistant

Received July 2026 / Revised October 2026 / Accepted November 2026

1. INTRODUCTION

1.1 Background

Knowledge management within an organizational environment is one of the key factors in maintaining operational continuity and service quality. This applies not only to large-scale companies, but also to higher education institutions, particularly technical units such as computer laboratories. Computer laboratories in higher education play an important role as facilities supporting students' practical learning, so the sustainability of their function depends greatly on the competence of the human resources who manage them, in this case the laboratory assistants (*aslab*).

Universitas Royal, located in Kisaran, North Sumatra, is an educational institution focused on the field of computer science. Campus 1, located at Jl. Imam Bonjol No. 179, Kisaran Barat, has a number of computer laboratories, one of which is the *Database Server* Laboratory. This laboratory is actively used to support student practicum activities in the fields of databases and network systems,

with infrastructure that includes computers, a LAN network, projectors, and various software such as XAMPP and Visual Studio Code.

In managing the laboratory, laboratory assistants have a highly strategic role. Their duties are not limited to room supervision, but include hardware and software maintenance, network checking, application installation and updating, handling computer damage, and mentoring students who experience difficulties. The knowledge and skills required to carry out these duties are largely *tacit*, namely knowledge that cannot easily be codified into written documents, but is acquired through direct experience and interaction between individuals (Nonaka & Takeuchi, 1995).

1.2 Problem Statement

The process of knowledge transfer from senior assistants to junior assistants in the *Database Server* Laboratory at Universitas Royal takes place informally and in an unstructured manner. Junior assistants generally acquire knowledge through direct mentoring, observation, and work experience, and occasionally ask for help from fellow assistants when facing problems that they cannot yet solve independently. This condition creates the potential for a knowledge gap if senior assistants are no longer active, because there is no systematic documentation mechanism to safeguard the continuity of that knowledge.

1.3 Research Objectives

Based on the background above, this study aims to: (1) identify the patterns of *tacit knowledge transfer* that occur between senior and junior assistants in the *Database Server* Laboratory at Universitas Royal; (2) analyze the factors that support and hinder that knowledge transfer process; and (3) formulate recommendations for more effective knowledge management strategies in higher education computer laboratory environments.

This study is expected to contribute to the development of knowledge management in academic laboratory environments, particularly in building a more structured and sustainable knowledge transfer system.

2. THEORETICAL FRAMEWORK

2.1 Knowledge Management

Knowledge management (*knowledge management*) is a systematic process of creating, collecting, storing, distributing, and using the knowledge possessed by individuals and organizations in order to achieve predetermined goals (Dalkir, 2011). In an organizational context, effective knowledge management can increase productivity, encourage innovation, and maintain operational continuity despite changes in human resources.

Knowledge in an organization can be categorized into two main forms, namely explicit knowledge (*explicit knowledge*) and hidden knowledge (*tacit knowledge*). Explicit knowledge is knowledge that can be codified in the form of writing, procedures, or formal documents, so that it is easy to share and access. Meanwhile, *tacit* knowledge is personal in nature, embedded in individual experience, and difficult to articulate formally [3].

2.2 Tacit Knowledge

Tacit knowledge was first introduced by Michael Polanyi (1966) through his famous statement that "we can know more than we can tell" (*we know more than we can tell*). This concept describes knowledge rooted in a person's practical skills, intuition, values, and experience, acquired through a direct learning process and not easily transferred through written media alone.

In the context of computer laboratories, *tacit knowledge* can take the form of the ability to quickly diagnose hardware component damage based on experience, skills in configuring LAN

networks, the ability to choose the right solution when software such as XAMPP experiences conflicts, and effective communication patterns in mentoring students who have difficulties during practicum sessions. Such knowledge can generally only be obtained through direct observation and joint practice with more experienced individuals.

2.3 Model SECI (Socialization, Externalization, Combination, Internalization)

The SECI model serves as a framework for explaining how knowledge is created and transferred in organizations through four knowledge conversion processes. This model is the theoretical foundation most widely used in knowledge management studies to date.

Table 1. Knowledge Conversion Processes of the SECI Model in the Database Server Laboratory

Process	Conversion	Description	Examples in the Database Server Laboratory
Socialization	Tacit → Tacit	Knowledge transfer through social interaction, observation, and joint practice	Junior assistants directly observe how seniors repair computers or configure LAN networks
Externalization	Tacit → Explicit	Tacit knowledge is transformed into forms that can be communicated, such as documents or guides	Seniors explain the steps for checking XAMPP and VS Code orally or in brief written notes
Combination	Explicit → Explicit	The combination of explicit knowledge from various sources into new knowledge	The preparation of laboratory maintenance guides from various reference sources and existing SOPs
Internalization	Explicit → Tacit	Explicit knowledge is absorbed and practiced until it becomes a habit and a skill	Junior assistants practice independently until they are proficient in handling the laboratory's technical problems

In the context of this study, the *socialization* process is the most dominant mechanism occurring in the *Database Server* Laboratory at Universitas Royal, given that knowledge transfer takes place through direct mentoring and informal interaction among laboratory assistants.

2.4 Knowledge Transfer

Knowledge transfer is defined as the process of transferring knowledge from one individual, group, or organization to another individual, group, or organization. This process is not merely the delivery of information, but includes the understanding, acceptance, and application of that knowledge by the receiving party.

The effectiveness of *knowledge transfer* is influenced by a number of factors, including: (1) the characteristics of the knowledge itself, whether it is complex or simple; (2) the relationship and trust between the sender and recipient of the knowledge; (3) the motivation of both parties to share and receive knowledge; and (4) the availability of media or channels that support the transfer process. In an academic laboratory environment, good interpersonal relationships between senior and junior assistants are the main determining factor in the success of the transfer process for technical knowledge that is *tacit*.

2.5 Laboratory Assistants as Knowledge Workers

Drucker (1999) introduced the concept of *knowledge worker* as an individual whose main work focuses on the management and use of knowledge. Computer laboratory assistants can be categorized as *knowledge worker*s because they not only carry out technical tasks, but also actively create, use, and transfer knowledge within the laboratory ecosystem.

As *knowledge worker*s, laboratory assistants at Universitas Royal carry out a dual role: as managers of the laboratory's technical infrastructure and as learning facilitators for students. This dual role requires an in-depth mastery of *tacit knowledge*, ranging from technical skills in hardware and software maintenance to pedagogical abilities in guiding laboratory users.

3. RESEARCH METHOD

3.1 Research Approach

This study uses a qualitative approach with a case study method (*case study*). The qualitative approach was chosen because this study aims to understand in depth the phenomenon of *tacit knowledge transfer* occurring in the environment of the *Database Server* Laboratory at Universitas Royal, in which the process is contextual, personal, and cannot be measured in purely numerical terms [10]. The case study method allows the researcher to explore the phenomenon holistically in a real context, particularly when the boundary between the phenomenon and its context cannot be clearly separated.

The researcher in this case acts as the main instrument of the research as well as a participant (*participant observer*), considering that the researcher is an active laboratory assistant at the *Database Server* Laboratory, Campus 1, Universitas Royal, Jl. Imam Bonjol No. 179, Kisaran Barat. This position provides direct access to the phenomenon under study and enables in-depth and authentic observation.

3.2 Research Site and Period

This research was conducted at the *Database Server* Laboratory, Campus 1 of Universitas Royal, located at Jl. Imam Bonjol No. 179, Kisaran Barat, Asahan Regency, North Sumatra. This laboratory is one of several computer laboratories owned by Universitas Royal, which as a whole reflects the institution's focus on the field of computer science. The research period was carried out during the researcher's internship as a laboratory assistant, namely in semester 6.

3.3 Data Sources

The data in this study were obtained from two sources, namely:

- **a.** **Primary data**, obtained directly through participatory observation during laboratory operational activities, unstructured interviews with other laboratory assistants who were involved when there were technical problems that could not be resolved independently, and the researcher's personal experiences and notes while carrying out duties as a laboratory assistant.
- **b.** **Secondary data**, obtained from scientific literature, journals, and references related to knowledge management, *tacit knowledge*, and higher education laboratory management, which were used as the basis for analysis.

3.4 Data Collection Techniques

Data collection in this study was conducted through three techniques, namely:

a. **Participatory observation**, in which the researcher was directly involved in laboratory operational activities, including hardware maintenance (computers, network components, projectors), installation and updating of software (XAMPP, Visual Studio Code, and other supporting applications), LAN network checks, and mentoring students who experienced difficulties during practicum sessions.
b. **Unstructured interviews** were conducted informally with other laboratory assistants at Universitas Royal when the researcher required assistance in handling technical problems that could not yet be resolved independently. This interaction also served as data on the *knowledge transfer* mechanisms taking place among assistants.
c. **Documentation and field notes**, in which the researcher recorded the experiences, obstacles, and solutions found while carrying out duties as a laboratory assistant, as material for qualitative analysis.

3.5 Data Analysis Techniques

The data analysis in this study refers to the interactive analysis model, which consists of the following four stages:

a. **Data collection** was carried out through observation, interviews, and documentation as described in the previous subsection.
b. **Data reduction** selected and focused on data relevant to the phenomenon of *tacit knowledge transfer* in the laboratory, and discarded irrelevant data.
c. **Data presentation** presented the data in the form of descriptive narratives, tables, and diagrams to facilitate an understanding of the patterns found.
d. **Conclusion drawing** drew conclusions based on the patterns and findings emerging from the data, and related them to the theories discussed in the theoretical framework.

3.6 Data Validity

To ensure data validity, this study used the *source triangulation* technique, namely by comparing the data obtained from direct observation, interviews with other laboratory assistants, and relevant literature studies (Sugiyono, 2019). In addition, the researcher's position as an active laboratory assistant strengthens the credibility of the data because the researcher has an in-depth contextual understanding of the phenomenon under study.

4. RESULTS AND DISCUSSION

4. Results and Discussion

4.1 General Overview of Database Server Laboratory Operations

The *Database Server* Laboratory of Universitas Royal is one of the computer laboratories located at Campus 1, Jl. Imam Bonjol No. 179, Kisaran Barat. This laboratory is actively managed by a laboratory assistant in charge of maintaining the operational continuity of all infrastructure, from hardware and software to computer networks. Based on the results of participatory observation over four months, the researcher identified that laboratory operations encompass a number of routine activities, namely: checking and updating software such as XAMPP and Visual Studio Code, maintaining the physical condition of computers, managing the LAN network including IP configuration, monitoring projectors, and mentoring students who experience technical difficulties during practicum sessions.

In addition to routine activities, there are also incidental activities that arise from time to time, such as handling computers that run slowly (*sluggish*), handling applications that experience *error*s,

repairing damaged hardware components, and coordinating with AC technicians when the room cooling system is disrupted. All of these activities require mastery of various types of technical knowledge, most of which is *tacit* and can only be mastered through direct experience in the field.

4.2 Patterns of Tacit Knowledge Transfer in the Database Server Laboratory

Based on participatory observation conducted over four months since the researcher began serving as a laboratory assistant, it was found that the *tacit knowledge transfer* process in the *Database Server* Laboratory at Universitas Royal takes place through two main patterns, namely senior-initiative-based transfer and junior-request-based transfer.

First pattern: Senior-initiative-based transfer. At the beginning of the assignment period, senior laboratory assistants from other laboratories at Universitas Royal proactively contacted the researcher to ask about the obstacles encountered. If there were problems that could not yet be resolved independently, the seniors provided direct explanations, either through demonstrations or verbal explanations. This pattern reflects the *socialization* process in the SECI model, in which *tacit* knowledge is transferred directly through social interaction without formal documentation (Nonaka & Takeuchi, 1995).

Second pattern: Junior-request-based transfer. As time went by, the researcher actively contacted other laboratory assistants when facing technical problems that could not be resolved independently. This pattern occurred particularly when more complex technical problems arose that had never been encountered before. Knowledge transfer in this pattern takes place through direct interaction, in which senior assistants explain the root of the problem and the steps for resolving it directly to the researcher.

Table 3. Patterns of Tacit Knowledge Transfer in the Database Server Laboratory of Universitas Royal

Transfer Pattern	Mechanism	Case Example	SECI Process
Senior Initiative	Seniors contact juniors, ask about obstacles, and provide direction	Seniors asked about the difficulties faced at the beginning of the assignment period and provided technical guidance	*Socialization*
Junior Request	Juniors contact seniors when facing obstacles that cannot be resolved independently	The researcher requested assistance when facing application errors and network IP configuration conflicts	*Socialization*
Independent Learning	Juniors solve problems through trial and error based on previous experience	Handling slow PCs through resets based on internalized experience	*Internalization*

4.3 Case Analysis of Tacit Knowledge Transfer

During four months of service, the researcher identified several concrete cases that clearly illustrate the *tacit knowledge transfer* process occurring in the laboratory.

Case 1: Handling a Slow-Running PC. Slow-running computers are the most frequently encountered problem in the *Database Server* Laboratory. Initially, the researcher did not know the appropriate procedure for handling this condition. Through guidance from senior assistants, the researcher learned that effective handling includes identifying the cause (excessive process load, full storage, or system damage), followed by appropriate actions such as cleaning temporary files, optimizing *startup*, or *reset*ting the operating system. This procedural knowledge was then internalized into a skill that can be applied independently — an *internalization* process in the SECI model.

Case 2: LAN Network IP Configuration Error. This case is one of the most complex technical problems faced by the researcher. The problem arose when a client computer could not connect to the server due to differences in IP address configuration. The researcher did not have adequate knowledge to resolve this problem independently, so the researcher requested assistance from other laboratory assistants. The senior assistant then explained the concept of *subnet* and the correct IP configuration procedure directly through a demonstration on the server computer. This knowledge transfer is a concrete example of the *socialization* process, in which the *tacit* knowledge regarding network configuration possessed by the seniors was transferred to the researcher through direct interaction and practical observation.

Case 3: Handling Application Errors. Handling *error*s in applications such as XAMPP and Visual Studio Code is a technical skill that was also obtained through a transfer process from the seniors. The researcher learned how to read *error* messages, identify *port* conflicts, and perform application reinstallation properly. After receiving guidance several times, this knowledge gradually became an ability that can be applied independently by the researcher.

4.4 Supporting and Inhibiting Factors of Tacit Knowledge Transfer

Based on the results of observation and the researcher's experience over four months, a number of factors were found that both support and hinder the *tacit knowledge transfer* process in the *Database Server* Laboratory at Universitas Royal.

Supporting factors include:

a. **Good interpersonal relationships** — open communication among laboratory assistants across units creates an environment conducive to sharing knowledge with one another, without any reluctance to ask questions or to teach.

b. **A culture of mutual assistance** — the initiative of senior assistants to proactively ask about the progress of juniors demonstrates a collaborative culture that supports the continuity of informal knowledge transfer.

c. **Direct experience as a learning medium** — the researcher's independent assignment from the beginning encouraged the *learning by doing* process, which accelerated the internalization of technical knowledge.

Inhibiting factors include:

a. **The absence of structured documentation** — the entirely informal knowledge transfer process causes technical knowledge to be stored only in certain individuals and to be vulnerable to loss if the assistant concerned is no longer active.

b. **Limited interaction time** — laboratory assistants from different units are not always available at the same time, so the transfer process is sometimes delayed when problems arise outside the schedules that allow coordination.

c. **The complexity of technical knowledge** — some technical problems, such as network configuration, require an in-depth conceptual understanding, so they cannot be mastered directly through a single transfer.

4.5 Relevance to the SECI Model

The findings of this study indicate that the *tacit knowledge transfer* process in the *Database Server* Laboratory at Universitas Royal predominantly operates within two phases of the SECI model, namely *socialization* and *internalization*. The *socialization* phase occurs when the researcher interacts directly with senior assistants to obtain technical knowledge not yet possessed, whereas the *internalization* phase occurs when the knowledge that has been obtained is practiced repeatedly until it becomes a skill that can be carried out independently.

Meanwhile, the *externalization* and *combination* phases have not yet occurred optimally in this laboratory, considering that there is no formal mechanism for converting the *tacit* knowledge possessed by the assistants into written documentation that can be accessed by all parties. This condition constitutes a gap that needs to be considered in the future development of the laboratory's knowledge management system.

5. CONCLUSION

This study concludes that the *tacit knowledge transfer* process in the *Database Server* Laboratory at Universitas Royal takes place informally and in an unstructured manner, yet continues to run effectively through two main patterns, namely senior-initiative-based transfer and junior-request-based transfer. Both patterns rest on direct interaction among laboratory assistants, whether through demonstrations, verbal explanations, or practical mentoring in solving technical problems in the field.

Based on the analysis using the SECI model (Nonaka & Takeuchi, 1995), it was found that the knowledge transfer process in this laboratory predominantly operates within the *socialization* and *internalization* phases. The *socialization* phase occurs through direct interaction between senior and junior assistants in handling technical problems such as LAN network IP configuration and the handling of application *error*s, while the *internalization* phase occurs when the knowledge obtained is practiced repeatedly until it becomes an independent skill. Meanwhile, the *externalization* and *combination* phases have not yet run optimally because there is no systematic documentation mechanism in the laboratory.

The factors supporting the success of the knowledge transfer process in this laboratory include good interpersonal relationships among assistants, a culture of mutual assistance that grows organically, and direct experience as the main medium of learning. On the other hand, the absence of structured documentation, limited interaction time, and the complexity of certain technical knowledge are inhibiting factors that need serious attention in future laboratory knowledge management.

Overall, this study shows that laboratory assistants act not only as technical managers of infrastructure, but also as *knowledge worker*s who actively create and transfer knowledge in the

laboratory ecosystem. Strengthening the knowledge management system, particularly through the establishment of a mechanism for documenting technical knowledge, is a strategic step that needs to be considered in order to maintain the continuity and quality of the operations of the *Database Server* Laboratory at Universitas Royal.

REFERENCES

[1] R. F. Ahmad, I. Suyitno, T. Kurniawan, dan B. K. Anggoro, "Manajemen Pengetahuan Model SECI Di UPT Perpustakaan Universitas Negeri Malang," *JoLLA: Journal of Language, Literature, and Arts*, vol. 2, no. 12, hlm. 1768–1779, 2022, doi: 10.17977/um064v2i122022p1768-1779. 2022

[2] D. Hutagalung, D. Novitasari, N. Silitonga, M. Asbari, dan N. Supiana, "Membangun Inovasi Organisasi: Antara Kepemimpinan Transformasional dan Proses Manajemen Pengetahuan," *Edukatif: Jurnal Pendidikan*, vol. 3, no. 6, hlm. 4568–4583, 2021. 2021.

[3] M. Suhendra dan L. Laksmi, "Transfer Tacit Knowledge dalam Mendukung Pengembangan Karier Profesional Editor di LIPI Press," *BACA: Jurnal Dokumentasi dan Informasi*, vol. 42, no. 2, hlm. 179–194, 2024, doi: 10.14203/j.baca.v42i2.790. 2024.

[4] D. K. Putra dan M. Nelisa, "Penerapan Model SECI untuk Meningkatkan Kinerja Pustakawan dalam Melayani Pemustaka di Perpustakaan UIN Imam Bonjol," *Buletin Perpustakaan Universitas Islam Indonesia*, vol. 4, no. 2, hlm. 227–238, 2022. 2022

[5] S. Windiarti dan M. V. Romi, "Tacit and Explicit Knowledge Management Moderated by Learning Organization in an Efforts to Improve Lecturers' Performance in West Java," *SULTANIST: Jurnal Manajemen dan Keuangan*, vol. 12, no. 2, hlm. 309–318, 2024, doi: 10.37403/sultanist.v12i2.652. 2024.

[6] N. S. Suleman, M. H. Koniyo, L. Hadjaratie, M. R. Katili, I. R. Padiku, dan S. N. Lahay, "Analisis Praktik Berbagi Pengetahuan Menggunakan Model SECI: Studi Kasus Kualitatif di Perpustakaan Universitas Negeri Gorontalo," *Jurnal Pustaka Ilmiah*, vol. 12, no. 1, hlm. 1–15, 2026, doi: 10.20961/jpi.v12i1.111257**.**

[7] A. Mulyanto dan A. D. Prakoso, "Penerapan Knowledge Management System Quality Control pada Kriteria Part NG dan OK di PT Setia Guna Selaras dengan Menggunakan SECI Model," *Jurnal Informatika SIMANTIK*, vol. 7, no. 8, hlm. 14–20, 2022, doi: 10.56304/s0040363622080021. 2022.

[8] N. Nugraheni, S. Bakhri, U. F. Alam, dan M. A. Ahwan, "Implementasi Manajemen Pengetahuan Menggunakan Model SECI di Perpustakaan Universitas Islam Negeri Walisongo Semarang," *Daluang: Journal of Library and Information Science*, vol. 4, no. 1, hlm. 44–57, 2024, doi: 10.21580/daluang.v4i1.2024.20267. 2024.

[9] S. Saepudin, A. Fauzi, dan S. M. Permatasari, "Knowledge Management, Tacit Knowledge, Explicit Knowledge, Learning Organization dan Employee Performance (Literature Review)," *Jurnal Ekonomi Manajemen Sistem Informasi*, vol. 4, no. 1, hlm. 82–92, 2022. 2022.

[10] R. R. Ritonga, Y. Ernanda, dan S. Simbolon, "Integrating Knowledge Management and Change: Exploring SECI Model Applications in SMEs and Modern Organizations," *Bisnis-Net Jurnal Ekonomi dan Bisnis*, vol. 7, no. 2, hlm. 927–931, 2024, doi: 10.46576/bn.v7i2.5534**.**

[11] L. Santika, M. R. H. Pradipta, U. Khairunnisya, V. Yusefani, K. D. Tania, dan D. Kurniawan, "Analisis Penerapan Knowledge Management pada BPS Kabupaten Ogan Ilir Menggunakan SECI Model," *JATI (Jurnal Mahasiswa Teknik Informatika)*, vol. **10**, no. **3**, hlm. 4048–4053, 2026, doi: 10.36040/jati.v10i3.18101**.**

[12] I. P. Restu Indrawan Prabawa dan A. C. Wardhana, "Pengembangan Knowledge Management System Ukiran Kayu Khas Bali Berbasis Artificial Intelligence," *Jurnal Teknologi Informasi dan Ilmu Komputer*, vol. 10, no. 6, hlm. 1379–1388, 2023, doi: 10.25126/jtiik.2023107576. 2023 .

[13] A. Nashikha, W. D. Anandito, M. U. Albab, dan Y. Sugiarti, "Anticipating Knowledge Management Future Challenges in the Digital Age: A Systematic Literature Review," *Explore: Jurnal Sistem Informasi dan Telematika*, vol. 15, no. 2, hlm. 276, 2024, doi: 10.36448/jsit.v15i2.4059. 2024.