

## TACIT KNOWLEDGE MANAGEMENT AND PRESERVATION IN ORGANIZATIONS: A SYSTEMATIC LITERATURE REVIEW

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### Abstract

Tacit knowledge is a strategic organizational asset in the form of individual experience, expertise, and intuition that is difficult to manage due to its implicit and contextual nature. Previous studies have extensively explored knowledge management practices, but limited attention has been paid to understanding the preservation of tacit knowledge within organizations. This article aims to systematically identify the forms of tacit knowledge managed by organizations, their preservation mechanisms, and the challenges organizations face in implementing such management and preservation. The research method used was a Systematic Literature Review (SLR), which examined reputable scientific articles relevant to the theme of tacit knowledge management and preservation in organizations. The PRISMA method was used to select articles, resulting in 33 articles relevant to the research objectives. The results indicate that tacit knowledge in organizations generally takes the form of practical experience, individual insights, technical skills, and community insights. Management and preservation are carried out through informal sharing mechanisms, mentoring, formal training, the use of technology, and Communities of Practice (CoP). However, the management and preservation of tacit knowledge face various challenges, particularly related to a lack of organizational support, a lack of trust between individuals, difficulties in standardization, ineffective use of technology, rigid bureaucracies, and limited organizational resources. This study offers novelty by integrating forms of tacit knowledge, preservation mechanisms, and organizational challenges into a unified analytical framework, highlighting the importance of a socio-technical approach to maintaining organizational memory. The results provide theoretical contributions to advancing knowledge management literature, as well as practical implications for organizations in designing adaptive strategies to preserve strategic intellectual assets in dynamic environments.

**Keywords:** knowledge management, knowledge preservation, organization, systematic literature review, tacit knowledge..

### INTRODUCTION

In this knowledge-based economy, organizations worldwide are faced with global challenges that force them to manage and preserve intellectual assets more effectively and

efficiently. Knowledge is no longer viewed as extra information but has become a key strategic tool for achieving long-term business sustainability and competitive advantage. A report from the Organisation for Economic Co-operation and Development shows that investment in knowledge-based technologies such as artificial intelligence will increase dramatically from US\$1.3 billion in 2022 to US\$17.8 billion in 2023 (OECD, 2024). Massive digital transformation also increases the need for accurate and rapid information exchange among team members. Organizations must adopt more flexible mechanisms, such as communities of practice (CPC) approaches, to manage the complex and evolving dynamics of knowledge (Castaneda & Toulson, 2021).

Knowledge within organizations is generally divided into documented explicit knowledge and tacit knowledge inherent in individuals. This concept aligns with the SECI (Socialization, Externalization, Combination, Internalization) model proposed by Ikujiro Nonaka and Hirotaka Takeuchi. Nonaka and Takeuchi (1995) explain that explicit and tacit knowledge interact dynamically in the creation of organizational knowledge. This model views tacit knowledge not only as inherent to individuals but also as something that can be transformed into explicit knowledge through externalization and disseminated through combination and internalization. Critics of the SECI model point out that the transformation of tacit knowledge into explicit knowledge does not always occur in a complete and linear manner, as it involves experience, intuition, and social context that are difficult to translate into formal documentation. Therefore, managing tacit knowledge requires not only a codification mechanism but also a socio-cultural approach that supports interactions between individuals. Van Houten (2023) states that the process of sharing professional tacit knowledge is highly dependent on individual agency, existing practice boundaries, and the deep commitment of its practitioners.

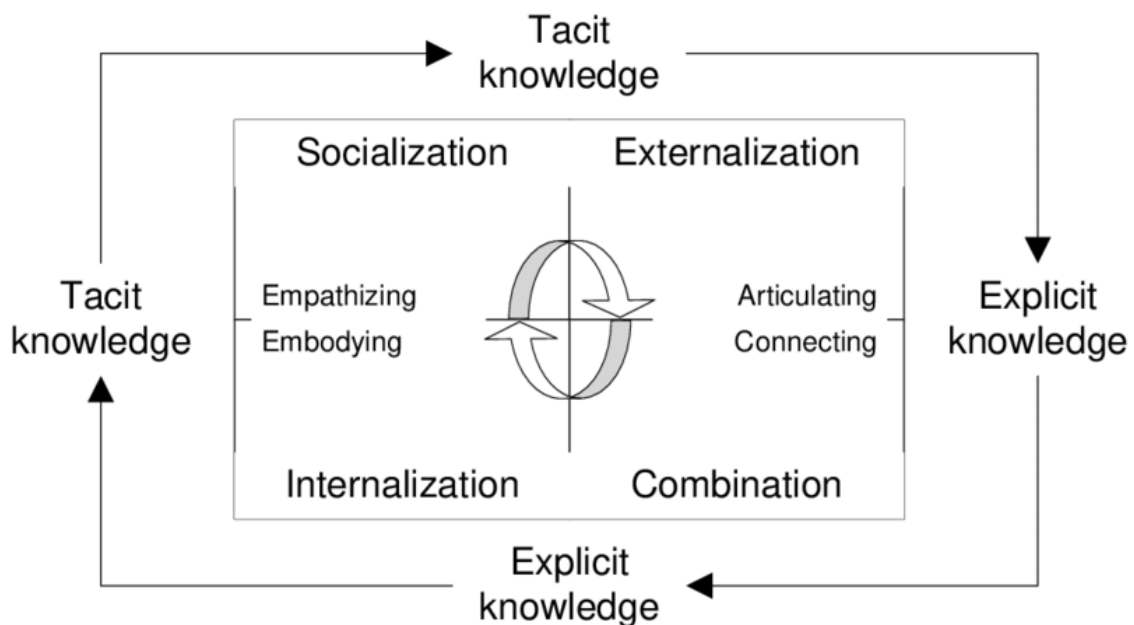


Figure 1. Nonaka Takeuchi's SECI model (1995)

The role of tacit knowledge in driving successful innovation across various sectors is undeniable, as evidenced by Ononye and Igwe (2019) who found that knowledge donation and collection positively contribute to innovation in public organizations. Sustainable innovation is

often rooted in individual creativity and improvisation that transcends standard operating procedures (Oubrich et al., 2021). However, in modern knowledge management discourse, a critical perspective has emerged stating that tacit knowledge does not always have a positive impact on organizations. Its highly personal and difficult-to-articulate nature can trigger knowledge hiding when individuals intentionally withhold strategic information to maintain their bargaining position or power within the organization (Ahmad & Sagsan, 2021). Furthermore, reliance on biased or outdated tacit knowledge can hinder innovation as organizations struggle to abandon old habits or logic that are no longer relevant to global market dynamics. Therefore, the effectiveness of tacit knowledge in organizational innovation depends heavily on the ability to balance individual intuition with collective documentation mechanisms.

The success of sharing tacit knowledge within an organization is influenced by various individual characteristics, one of which is emotional intelligence. Employees with high emotional intelligence tend to be better able to understand the social dynamics within the organizational environment, making them more comfortable sharing their expertise. Furthermore, a strong commitment to the organization encourages individuals to contribute beyond written job descriptions. These psychological and emotional factors act as a crucial bridge between personal insight and the need for collective knowledge sharing within the organization. Emotional intelligence serves as a crucial antecedent that drives the intention to share tacit knowledge through the mediation mechanism of professional commitment (Li & Li, 2024).

In addition to individual factors, organizational support and the work context also play a crucial role in facilitating knowledge exchange. Perceived Organizational Support (POS) creates a sense of reciprocity where individuals feel their knowledge contributions are truly valued by the organization. A supportive work environment reduces barriers such as the fear of losing an edge when an expert shares their knowledge with colleagues. Coordination within an organization requires information transparency and a high level of trust among the individuals involved. The organizational context and mechanisms for sharing tacit knowledge are key determinants of innovation performance in the management of large projects (Kan et al., 2025).

An organizational culture that prioritizes the values of collaboration, learning, and knowledge management (KLC culture) is an absolute requirement for a healthy sharing ecosystem. In this work culture, every individual mistake is viewed as a valuable opportunity for learning, not as a reason to impose punishment that can stifle creativity. Trust between individuals also grows in a transparent and collaborative environment, ultimately facilitating the transfer of personal knowledge. Conversely, a competitive and closed work culture will keep tacit knowledge bottled up within the minds of individuals, without benefiting the organization. Kucharska and Karwowska (2025) emphasize that synergy between the components of a KLC culture is crucial for fostering effective knowledge sharing and achieving overall corporate sustainability goals.

However, in reality, many organizations still face serious challenges such as rigid bureaucracy and low levels of trust between individuals. In the public sector, particularly in Indonesia, a very strict hierarchical structure often acts as a major obstacle to the flexibility needed to transfer tacit knowledge. Limited time resources and the ineffective and one-way use of information technology further complicate this knowledge transfer process. Often, existing IT systems in offices serve only as static data storage without supporting in-depth human interaction. Iksan, Sirat, Hidayanti, and Jannang (2025) highlight that in the Indonesian public

sector, organizational capabilities and tacit knowledge have a significant direct influence on improving organizational performance through the power of innovation.

The complexity of existing barriers and the enormous potential of tacit knowledge assets require a more comprehensive understanding of tacit knowledge management strategies. Several previous studies have examined tacit knowledge management from various perspectives, such as individual factors, organizational culture, and the role of technology (Castaneda & Toulson, 2021; Alves & Pinheiro, 2022; Sial et al., 2023). Several literature reviews have also been conducted, for example, by Serenko Alexander (2021), who mapped general trends in knowledge management research, and by Massaro Maurizio et al. (2020), who examined the development of the Systematic Literature Review methodology in the field of knowledge management. However, these studies tend to be macro-level and have not specifically addressed the integration between the dimensions of tacit knowledge, its management mechanisms, and the challenges of its preservation in an organizational context.

Based on this gap, this study aims to systematically explore the dominant forms of tacit knowledge, its preservation mechanisms, and the challenges organizations face in managing it. By integrating these three dimensions, this research is expected to provide a theoretical contribution to enriching the knowledge management literature, particularly regarding the preservation of tacit knowledge. Practically, the findings of this study are expected to serve as a basis for organizations in formulating more adaptive, systematic, and sustainable knowledge management policies.

## RESEARCH METHOD

This study employed the Systematic Literature Review (SLR) method to identify, evaluate, and synthesize various studies related to tacit knowledge preservation in organizations between 2016 and 2025. The SLR method was chosen based on its ability to map the literature transparently and systematically, thus minimizing bias in drawing conclusions. In the discipline of knowledge management, this approach is crucial for integrating scattered findings on how organizations maintain intellectual assets that are personal and difficult to document. The use of this structured methodology allows researchers to produce a more reliable picture that can be replicated by other researchers in the future (Snyder, 2019).

The literature search strategy was conducted through the scientific database Scopus to ensure broad and representative coverage of the literature. This database was selected based on its reputation and multidisciplinary coverage in indexing internationally reputable scientific publications. The search period was limited to 2016–2025 to ensure relevance to current research developments. The search strategy was conducted by combining primary keywords relevant to the research topic, namely tacit knowledge, knowledge management, and organization, using Boolean operators such as "AND" and "OR." The keyword combinations used were as follows:

(tacit knowledge OR implicit knowledge OR indigenous knowledge) AND (knowledge management OR knowledge preservation OR knowledge sharing) AND (organization OR institution)

The article selection process was conducted using the PRISMA method, which includes identification, screening, eligibility, and inclusion. To ensure the quality of the articles analyzed, researchers conducted a quality assessment (critical appraisal) using criteria such as topic relevance, methodological clarity, credibility of publication sources, and contribution to the field

of knowledge management. Only articles that met these quality standards were included in the final analysis stage.

Furthermore, to minimize subjectivity in article selection, this study employed an inter-rater reliability procedure. The screening process of titles, abstracts, and full texts was conducted independently by two researchers. Disagreements regarding article selection were discussed in depth until a consensus was reached, with the involvement of a third researcher as a mediator. This procedure was carried out to ensure that the selected articles were truly relevant and met objectively established quality standards.

During the identification stage, 916 articles were identified from the database used. After removing duplicates (132 articles), a screening of article titles and abstracts resulted in the exclusion of 621 articles due to non-compliance with the criteria for publication year, language, topic relevance, and accessibility, reducing the total number of articles to 163. In the eligibility stage, a more in-depth evaluation of the 163 articles, accessible in full text, was conducted for suitability based on their relevance to the main topic, namely tacit knowledge management within organizations. This resulted in 43 articles meeting the criteria. The final stage (inclusion) resulted in 33 articles being used in the analysis after quality assessment and inter-rater reliability, as they met all inclusion criteria set out in Table 1.

Articles that did not meet the inclusion criteria were excluded for several specific reasons. Articles irrelevant to the research topic were eliminated, such as those discussing explicit knowledge without a link to tacit knowledge or focusing on contexts outside the organization. Additionally, articles published outside the specified timeframe (before 2016) and articles not available in English or Indonesian were also excluded from the analysis. Articles that were not available in full-text format and articles that were not freely accessible were also excluded. This exclusion process was carried out to ensure that only articles of high quality and relevance were analyzed in this study.

Table 1. Article Inclusion and Exclusion Criteria Used

Inklusion	Exklusion
Articles discussing tacit knowledge management	Articles discussing explicit knowledge management or knowledge management in general
Articles discussing tacit knowledge management within organizations	Articles discussing tacit knowledge management outside of an organizational context
Articles published between 2016 and 2025	Articles published before 2016
Articles written in English or Indonesian	Articles written in languages other than English or Indonesian
Articles with free full-text access	Articles that are paid for or only provide abstracts for reading

## RESULT AND DISCUSSION

Based on the PRISMA selection as described in Table 2, 33 relevant articles were identified for use in this study.

Table 2. Articles Used in This Study

No	Author	Title	Year	Publisher
1.	Hongsheng Kan, Yujuan Li, Xue Li	The Influence Mechanism of Organizational Context and Tacit Knowledge Sharing on Innovation Performance in Mega Projects	2025	Buildings

2.	Bambang Budi Wiyono, Ahmad Yusuf Sobri, Burhanuddin, Khalip Musa, Mochammad Fahlevi	The Effect of the Enhancement of Tacit and Explicit Knowledge in Knowledge Management on the Principal's Digital Leadership and the Improvement of School Organization	2025	Educational Process: International Journal
3.	Iksan Iksan, Abdul Hadi Sirat, Ida Hidayanti, Abdul Rahman Jannang	The Effect of Organizational Capability and Tacit Knowledge on Organizational Performance: A Case Study on Organizational Innovation Power as Mediation in the Indonesian Public Sector	2025	Australasian Accounting, Business and Finance Journal
4.	Wioleta Kucharska, Elzbieta Karwowska	Company culture matters! Knowledge-driven companies' way to innovations and sustainability	2025	Social Sciences and Humanities Open
5.	Yu Li, Hao Li	Examining the Relationship Between Emotional Intelligence and Tacit Knowledge Sharing using a Moderated Mediation Model	2024	SAGE Open
6.	Maria Grace Herlina, Feren Fitriastasya, Silvia Ratih and Maria Amandha	Unlocking Innovation from Within: The Power of Tacit Knowledge and Change Adaptability in Indonesian Internal Organisational Innovation Processes	2024	Economics and Culture
7.	Anna Bagieńska	The Mediating Effect of Trust on the Relation between Interpersonal Communication and Tacit Knowledge Sharing	2024	WSEAS Transactions on Business and Economics
8.	Nam Nguyen Kim and Nga Nguyen Thi Hang	Rewards, knowledge sharing and individual work performance: an empirical study	2024	Cogent Business and Management
9.	Wioleta Kucharska, Denise Bedford	The KLC Cultures' Synergy Power, Trust, and Tacit Knowledge for Organizational Intelligence	2024	Electronic Journal of Knowledge Management
10.	Achmad Wildan Kurniawan, Suwandi Sumartias, Soeganda Priyatna, Karim Suryadi	Workers' Knowledge Sharing and Its Relationship with Their Colleague's Political Publicity in Social Media	2024	Interdisciplinary Journal of Information, Knowledge, and Management
11.	Esther H. Bisschops, J. Clasiën de Schipper, Zina Salhi, Petri J.C.M. Embregts, Carlo Schuengel	Communities of practice for implementing methods to reduce involuntary care in intellectual disability care: Insights from tacit and experiential knowledge exchange	2024	Journal of Intellectual and Developmental Disability
12.	Wioleta Kucharska	Self-Perceived Personal Brand Equity of Knowledge Workers by Gender in Light of Knowledge-Driven Organizational Culture: Evidence From Poland and the United States	2024	SAGE Open
13.	Wioleta Kucharska, Aleksandra Kopytko	Double Bias of Mistakes: Essence, Consequences, and Measurement Method	2024	Electronic Journal of Business Research Methods
14.	Uzoma Ononye	PERCEIVED ORGANISATIONAL SUPPORT AND ORGANISATIONAL TRUST LINK TO INNOVATIVE WORK BEHAVIOUR BY THE	2023	International Journal of Business and Society

MEDIATION OF TACIT KNOWLEDGE SHARING				
15.	Muhammad Adnan Sial, Zahra Ishtiaq Paul, Zeeshan Rafiq, Ghulam Abid	Does mobile technology shape employee socialization and enable tacit knowledge sharing in public sector organizations	2023	Journal of Open Innovation: Technology, Market, and Complexity
16.	Maarten Matheus van Houten	Professional tacit knowledge sharing in practice. Agency, boundaries, and commitment	2023	Journal of Workplace Learning
17.	Uzoma Ononye	Linking Tacit Knowledge Sharing to Employee Innovation with Job Thriving as a Mediational Factor: A Public Sector Perspective	2022	International Journal of Public Policy and Administration Research
18.	Bo Pu, Wenyuan Sang, Juan Yang, Siyu Ji, Zhiwei Tang	The Effect of Entrepreneurial Leadership on Employees' Tacit Knowledge Sharing in Start-Ups: A Moderated Mediation Model	2022	Psychology Research and Behavior Management
19.	Tiina Saari, Tuija Koivunen	Tacit knowledge in blue-collar work: how workers use it to fulfil their side of the psychological contract	2022	International Journal of Organizational Analysis
19.	Terhi Nokkala, Melina Aarnikoivu, Johanna Kiili	Multidisciplinary Peer-Mentoring Groups Supporting Knowledge Sharing in Doctoral Education	2022	Scandinavian Journal of Educational Research
21.	Delio Ignacio Castaneda, Paul Toulson	Is it possible to share tacit knowledge using information and communication technology tools?	2021	Global Knowledge, Memory and Communication
22.	Jun Suzurikawa, Yuki Sawada, Miwa Sakiyama, Motoi Suwa, Takenobu Inoue, Tomoko Kondo	Perspectives of multidisciplinary professional teams during assessment processes for atd selection in the japanese public provision system	2021	International Journal of Environmental Research and Public Health
23.	Bojan Obrenovic, Du Jianguo, Diana Tsoy, Slobodan Obrenovic, Muhammad Aamir Shafique Khan	The Enjoyment of Knowledge Sharing: Impact of Altruism on Tacit Knowledge-Sharing Behavior	2020	Frontiers in Psychology
24.	Anne Shepherd, James Cooper	Knowledge Management for Virtual Teams	2020	Issues in Information Systems
25.	Abdulghani Gaghman	The Impact of Individual Behavioural Factors on Tacit Knowledge Retention in Oil and Gas Organisations	2019	European Journal of Interdisciplinary Studies
26.	Uzoma Heman Ononye, Anthony Igwe	Knowledge sharing process and innovation success: Evidence from public organisations in southern Nigeria	2019	Interdisciplinary Journal of Information, Knowledge, and Management Systems
27.	Sitalakshmi Venkatraman, Ramanathan Venkatraman	Communities of practice approach for knowledge management systems	2018	Systems
28.	Rohana Ngah, T. Ramayah, Rahimah Sarmidy	Partial least square analysis on micro enterprises' intellectual capital and performance: The mediating effect of tacit knowledge sharing	2018	Journal of Applied Structural Equation Modeling
29.	Rianne Appel-Meulenbroek, Mathieu Weggeman, Marko Torkkeli	Knowledge sharing behaviour within organisations; A diary-based study of unplanned meetings between researchers	2018	Knowledge Management Research and Practice

30.	Ensiyeh Jamshidi, Sima Nedjat, Saharnaz Nedjat, Sima Nikooee, Narges Rostamigooran, Reza Majdzadeh	How to utilize tacit knowledge in health organizations: An Iranian perspective	2018	Medical Journal of the Islamic Republic of Iran
31.	Billie de Haas, Anke van der Kwaak	Exploring linkages between research, policy and practice in the Netherlands: Perspectives on sexual and reproductive health and rights knowledge flows	2017	Health Research Policy and Systems
32.	Victor Becerril-Montekio, Jacqueline Alcalde-Rabanal, Blair G. Darney, Emanuel Orozco-Nunez	Using systematized tacit knowledge to prioritize implementation challenges in existing maternal health programs: Implications for the post MDG era	2016	Health Policy and Planning
33.	Ming Li, Mengyue Yuan	An approach to the match between experts and users in a fuzzy linguistic environment	2016	Information (Switzerland)

### **RQ1: Types of Tacit Knowledge Managed/Preserved by Organizations**

The analysis of the 33 articles above indicates that tacit knowledge in organizations is fragmented into several cognitive and technical dimensions. The literature synthesis identified four main typologies: practical experience, individual insight, technical skills, and community knowledge.

#### *Practical Experience*

Practical experience is a form of knowledge acquired through years of direct involvement in work activities, encompassing procedural memory of "how things are done" in the field. This knowledge often manifests itself in the ability to handle unexpected situations or solve complex problems not covered in formal manuals. According to Saari and Koivunen (2022), workers use their practical experience to fulfill their psychological contract obligations by seeking the best work methods, which can only be acquired through extensive experience.

#### *Individual Insight*

Individual insight encompasses the intuition, cognition, and personal perceptions an employee possesses in understanding specific phenomena in the work environment. This form of knowledge is highly subjective and closely related to an individual's emotional intelligence, where the ability to understand one's own and others' emotions facilitates the articulation of knowledge that is difficult to explicitly define. Li and Li (2024) emphasize that individual characteristics such as professional commitment and emotional intelligence are key drivers of the effective sharing of this personal insight within an organization.

#### *Technical Skills*

Technical skills, in a tacit context, are specific skills or "know-how" that are difficult to document or teach through verbal instruction alone. These skills often involve physical coordination or a deep understanding of tools and systems that are automatic for the knowledge holder. As van Houten (2023) explains, this professional knowledge is often bound by the constraints of specific practices, with reflection and storytelling being limited ways of attempting to transfer this technical expertise to colleagues.

*Community Knowledge*

Community knowledge refers to knowledge created and developed within a specific social group or work unit through routine interaction and collaboration. This can take the form of a shared understanding of group norms, specialized technical language, or collective solutions to common problems. Venkatraman and Venkatraman (2018) state that through a Communities of Practice (CoP) approach, this collective knowledge can be managed and shared more effectively to support organizational innovation.

Table 3. Types of Tacit Knowledge Managed or Preserved by Organizations

No	Category	Tacit Knowledge Form	Reference
1	Practical Experience	Technical field experience, project management expertise, innovative behavior based on work experience, experiential knowledge in care, narrative/storytelling of experiences, and the intellectual capital of business owners.	1, 3, 4, 5, 6, 8, 11, 13, 17, 30, 31, 33
2	Individual Insight	Digital and managerial leadership insights, emotional intelligence, professional commitment, political values and personal views, metacognition (learning from mistakes), a passion for learning, entrepreneurial vision, mental agility, and spontaneous ideas during interactions.	2, 4, 7, 9, 10, 14, 15, 16, 21, 22, 23, 24, 26, 29, 32
3	Technical Skills	Bureaucratic innovation capabilities, personal brand (unique technical mastery), field skills (dexterity), technical problem solving through dialogue, specific knowledge of tool needs, and senior technical expertise.	8, 12, 18, 19, 20, 22, 25, 28, 30, 31, 32, 33
4	Community Knowledge	Organizational intelligence, collective memory, knowledge derived from informal socialization, academic navigation from peer mentoring, the process of giving/receiving knowledge within a team, and knowledge within a community of practice (CoP).	27

There is a strong consensus in the literature that practical experience is the most dominant form of tacit knowledge. However, there are differences in focus that are interesting to examine. Studies by Sial et al. (2023) and Castaneda & Toulson (2021) emphasize that in the context of public organizations, tacit knowledge manifests more as bureaucratic intuition or the ability to navigate complex procedures. This contrasts with findings in the private sector or creative industries, where Oubrich et al. (2021) argue that tacit knowledge is more often improvisational and oriented toward quick technical problem-solving.

Debate arises around the category of community knowledge. Venkatraman & Venkatraman (2018) position this knowledge as a collective asset trapped in team routines. However, a more recent perspective from van Houten (2023) critiques that community knowledge is not merely unwritten procedures, but rather a collection of interconnected individual agencies. This comparison demonstrates a paradigm shift from viewing tacit knowledge as something possessed by organizations to something practiced by individuals (social practice).

Ultimately, although various forms of tacit knowledge have been defined, there is a gap in the methodology for codification. Most studies agree on its forms, but none have successfully explained how to empirically differentiate between technical skills and intuition, as the two often overlap in daily work activities.

## **RQ2: Mechanisms for Preserving Tacit Knowledge in Organizations**

The review results indicate that several mechanisms are used by organizations to preserve tacit knowledge, including informal sharing, mentoring, formal training, technology utilization, and communities of practice. All of these mechanisms can be used by organizations to transfer tacit knowledge within the organization. However, their effectiveness varies depending on the implementation context and organizational characteristics.

### *Informal Sharing*

Informal knowledge sharing occurs through unstructured social interactions, such as spontaneous conversations or unplanned meetings in the workplace. This mechanism is highly effective for transferring tacit knowledge due to its flexibility, allowing employees to exchange experiences and know-how naturally without bureaucratic barriers. Research shows that unplanned meetings between researchers or colleagues are often the primary forum where creative ideas and technical solutions that are difficult to document can be better communicated (Appel-Meulenbroek et al., 2018).

### *Mentoring*

Mentoring involves a deep interpersonal relationship between a more experienced individual (mentor) and a less experienced individual (mentee). In this process, the mentor transfers tacit knowledge through direct guidance, role modeling, and ongoing feedback. In both higher education and professional settings, peer-mentoring programs have been shown to support the formation of strong learning communities, where participants learn not only technical skills but also implicit professional values and culture (Nokkala et al., 2022).

### *Formal Training*

Formal training is a structured mechanism designed by organizations to improve employee competency through specific curricula or modules. Although often associated with explicit knowledge, well-designed training can trigger the externalization of tacit knowledge. Through formal instruction and practical exercises, organizations can ensure that minimum standards of knowledge are evenly communicated to all members, serving as a basis for innovation (Ononye & Igwe, 2019).

### *Utilization of Technology*

Information and communication technology (ICT) acts as a facilitator, bridging distance and time in knowledge sharing. The use of mobile devices, internal social media, and collaboration platforms allows individuals to discuss issues in real time. While tacit knowledge is difficult to encode, technology that supports interactive dialogue and rich visual features significantly facilitates the process of disseminating this knowledge in digital and hybrid work environments (Castaneda & Toulson, 2021; Sial et al., 2023).

### *Community of Practice (CoP)*

A Community of Practice (CoP) is a group of people who share a common interest or profession and interact regularly to learn how to do things better. CoPs provide a space for members to share best practices, discuss obstacles, and develop a collective identity. This mechanism is widely recognized as one of the most effective ways to manage tacit knowledge,

as it combines elements of social interaction with a focus on solving real-world problems (Bisschops et al., 2024; Venkatraman & Venkatraman, 2018).

Direct interaction-based mechanisms such as informal sharing, mentoring, and formal training are consistently considered the most effective methods for transferring tacit knowledge, as they allow for direct observation, imitation, and internalization (Alves & Pinheiro, 2022). However, these mechanisms have limitations in terms of scalability and dependency on the availability of experienced individuals, making them difficult to implement in organizations with large human resources.

On the other hand, Communities of Practice offer the advantage of creating spaces for collective and sustainable knowledge sharing. Research conducted by Bisschops et al. (2024) shows that Communities of Practice are effective in building organizational memory because they enable tacit knowledge to develop through repeated social interactions. However, the effectiveness of Communities of Practice is highly dependent on the level of member participation and organizational culture, so these mechanisms cannot function optimally without strong organizational commitment.

In the context of digital transformation, the use of technology plays a crucial role in supporting the preservation of tacit knowledge in organizations. Technologies such as machine learning, knowledge management systems (KMS), and AI-enabled knowledge capture enable organizations to identify knowledge patterns and document experiences as part of tacit knowledge management. However, although digital transformation increases the efficiency and accessibility of knowledge, the literature shows that technology still has limitations in capturing the contextual, intuitive, and experiential dimensions that are at the core of tacit knowledge (Kucharska & Bedford, 2024).

Furthermore, the integration of social and technological approaches is a key factor in increasing the effectiveness of tacit knowledge preservation. Research conducted by Sial et al. (2023) shows that organizations that combine human interaction with technological support tend to have higher success rates in knowledge preservation than organizations that rely solely on one approach. This finding indicates that no single mechanism is completely effective in preserving tacit knowledge; rather, a hybrid approach that integrates social and technological dimensions is needed.

Table 4. Forms of tacit knowledge management and preservation in organizations

No	Main Mechanism	Best Context	Weakness	Reference
1	Informal Sharing	All Sectors	Knowledge hoarding	1, 5, 7, 8, 10, 12, 13, 16, 17, 19, 23, 25, 28, 29, 30, 31
2	Mentoring	Public and Private Organizations	Scalability	2, 4, 6, 9, 12, 14, 18, 20, 26, 30, 32, 33
3	Formal Training	Public Organizations	Lack of creativity	3, 4, 9, 14
4	Technology Utilization	Modern Organizations	Loss of emotion	3, 15, 21, 24
5	Community of Practice (CoP)	Mature Organizations	Start-up chaos	11, 22, 27

### RQ3 Challenges in Managing or Preserving Tacit Knowledge in Organizations

A review of 33 articles indicates that challenges in preserving tacit knowledge in organizations have evolved from mere technical issues to complex sociopsychological barriers.

The literature synthesis categorizes these challenges into three main dimensions: organizational, individual, and technological.

Within the organizational dimension, challenges to knowledge preservation include a lack of organizational support, rigid bureaucracy, and limited resources. Low organizational support is a significant barrier because employees feel that their efforts in sharing expertise are not recognized or valued by management. Without strong Perceived Organizational Support (POS), individuals' professional commitment declines, leading them to withhold knowledge for the sake of securing their own positions. Kan et al. (2025) emphasized that a supportive organizational climate is crucial for motivating employees to engage in knowledge-sharing behaviors that require extra effort.

Furthermore, rigid bureaucracy in organizations often creates procedural barriers that hinder the spontaneous and personal flow of knowledge. Highly formal hierarchical structures tend to prioritize adherence to written rules over the flexible interactions necessary for the transfer of tacit knowledge. Ononye (2022) explains that in bureaucratic public organizations, structural barriers can limit employees' ability to innovate because the space for sharing experiences outside of standard procedures is very limited.

Furthermore, limited resources, particularly time and physical/virtual space for informal interactions, also hinder employees from sharing experiences. Excessive workloads prevent employees from voluntarily "donating knowledge" to their colleagues. Appel-Meulenbroek et al.'s (2018) study showed that unplanned meetings are crucial for knowledge exchange, but this is difficult to achieve if the work environment is too rigid and time resources are very limited.

Preservation challenges on the individual dimension consist of a lack of trust between individuals and difficulties in standardizing tacit knowledge. Interpersonal trust is a key foundation for the exchange of tacit knowledge due to its personal nature and difficulty in articulating it. If there is no trust between colleagues, individuals will feel threatened that their unique knowledge will be misused or that they will lose their competitive advantage within the team. Bagieńska (2024) highlights that direct communication will only be effective in transferring layers of knowledge if it is based on deep mutual trust among organizational members.

A further challenge in tacit knowledge management is its context-bound nature, making it very difficult to codify or standardize into formal documents. Often, the essence of expertise is lost when attempts are made to translate it into words or standard operating procedures. Van Houten (2023) notes that while reflection and storytelling can be helpful, professional boundaries and individual autonomy often keep such knowledge implicit and difficult to disseminate widely.

On the technological front, digital transformation often fails to facilitate the preservation of tacit knowledge if it is used solely as a static data repository without features that support two-way dialogue. There is a risk that digital codification will only produce surface-level information that loses its original meaning. Castaneda and Toulson (2021) emphasize that only IT tools that enable active dialogue and interaction can support successful tacit knowledge sharing.

Table 5. Organizational challenges in managing and preserving tacit knowledge

No	Types of Challenges	Specific Barriers Encountered	Reference
1	Lack of Organizational Support	Low Perceived Organizational Support (POS) makes employees feel their knowledge contributions are unappreciated, thus reducing their willingness to share.	2, 3, 5, 6, 13, 14, 17, 18, 19, 23, 25, 27, 29, 31
2	Interpersonal Trust	Tacit knowledge is personal; without interpersonal trust, individuals are reluctant to share expertise for fear of losing a competitive advantage or being misused.	7, 8, 9, 10, 12, 16, 20, 22
3	Difficulty Standardizing Tacit Knowledge	Its "context-bound" nature and difficulty in articulating it often means that codifying it in written form often fails to capture the essence of that expertise.	11, 30, 32
4	Ineffective IT	The use of IT that is only one-way (without dialogue features) is incapable of transferring tacit knowledge. IT fails if it does not support social interaction or virtual communities.	15, 21, 24
5	Rigid Bureaucracy	Strict hierarchical structures and formal procedures often hinder the spontaneous flow of information, especially in the highly bureaucratic public sector.	1, 4, 26
6	Limited Resources	Lack of free time for informal interactions and high workloads discourage employees from voluntarily "donating knowledge."	28, 33

Overall, the findings above indicate that the challenges in preserving tacit knowledge are multidimensional and interconnected. No single factor can explain this complexity; rather, the interaction between individual, organizational, and technological factors determines the success or failure of the preservation process. Therefore, an integrated approach is key to addressing these challenges.

## Discussion

The synthesis of the three research questions reveals that tacit knowledge management is not simply a technical activity, but rather a complex sociotechnical process. The findings of this study indicate a strong relationship between the type of tacit knowledge (RQ1) and the effectiveness of its preservation mechanisms (RQ2). For example, technical skills are more effectively preserved through mentoring and formal training. Conversely, more abstract individual insights require more flexible socialization spaces such as Communities of Practice (CoP). This confirms that organizations cannot apply a single mechanism to all forms of knowledge. Organizations must first map the characteristics of the tacit knowledge that constitutes their intellectual assets before determining preservation instruments.

This integrative discussion also highlights that psychological barriers such as lack of trust between individuals (RQ3) cannot be resolved solely through technological advancements (RQ2). The use of digital platforms should be positioned as facilitators that can increase the effectiveness of tacit knowledge sharing. For example, AI-based search systems can help employees who face communication barriers continue to contribute to the organization.

As the culmination of the integration, this study proposes a Hybrid Preservation Model that expands on the SECI theory (Nonaka & Takeuchi, 1995). In this preservation model, the Externalization stage no longer relies solely on manual documentation in text, but also on the automatic capture of digital interaction traces validated through social interactions. This study believes that in the digital era, preserving tacit knowledge is no longer just about transferring

the contents of the head into documents, but also about building an ecosystem with technology as the custodian of the knowledge map and humans as the custodians of its meaning and context.

## **CONCLUSION**

This research confirms that tacit knowledge preservation is a complex and multidimensional process. It is inseparable from the interaction between individual factors, social mechanisms, and technological support. The results of this literature review indicate that the effectiveness of tacit knowledge management and preservation is largely determined by an organization's ability to integrate knowledge forms, transfer mechanisms, and the organizational context.

Theoretically, this research extends Nonaka & Takeuchi's SECI Model by incorporating a technological dimension. The externalization process is now supported by digital systems and knowledge mapping algorithms, aspects that have not been explored in depth in classical studies. This research also contributes by developing a more comprehensive understanding of tacit knowledge preservation through the integration of three key dimensions: tacit knowledge forms, preservation mechanisms, and the challenges faced by organizations. This integration unifies the conceptual framework in the knowledge management literature, which has tended to be fragmented, and emphasizes the crucial role of a socio-technical approach in understanding the dynamics of tacit knowledge management in the digital era.

In terms of novelty, this research offers a systematic synthesis that specifically links tacit knowledge with preservation aspects in the context of digital transformation, an area of limited discussion in previous studies. Furthermore, this study highlights the importance of a hybrid approach that integrates technology and human interaction, including the use of artificial intelligence-based systems, as a core strategy for maintaining the sustainability of organizational knowledge.

Practically, this study implies that organizations need to implement tacit knowledge management strategies that focus not only on document codification and repositories, but also on creating a social environment and digital ecosystem that supports knowledge preservation. An integrated and adaptive approach is key to avoiding the loss of vital knowledge due to human resource mobility and organizational dynamics.

This study is limited to discussing the forms of tacit knowledge, preservation mechanisms, and general organizational challenges. Future research is recommended to further examine the psychological aspects of knowledge hiding in the workplace to understand the emotional barriers that hinder the effectiveness of tacit knowledge preservation. Furthermore, future research is expected to further explore the role of artificial intelligence-based technology in assisting tacit knowledge management and examine the epistemological and ethical implications of the digitization of contextual and personalized knowledge.

## **SUGGESTION**

Based on the research findings, the researchers recommend that organizations build a collaborative culture that encourages social interaction, exchange of experiences, and collective learning, while simultaneously utilizing digital ecosystems to support sustainable knowledge transfer. Flexible and integrated strategies are essential for organizations to maintain crucial intellectual assets amidst high employee mobility and dynamic work environment changes. Further research is recommended to further examine the psychological dimensions of

knowledge hiding behavior, particularly emotional and interpersonal factors that can hinder knowledge sharing within organizations. Future research should also explore the potential of artificial intelligence-based technologies in supporting tacit knowledge management, including examining the epistemological and ethical consequences that arise from the digitalization of personal, contextual, and experience-based knowledge.

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