
Managing the Risk of Organizational Knowledge Loss in the Context of Artificial Intelligence Use

Submitted 22/07/26, 1st revision 15/08/26, 2nd revision 27/08/26, accepted 10/09/26

Tomasz Lis¹

Abstract:

Purpose: This study identifies the mechanisms through which artificial intelligence influences the risk of organizational knowledge loss and develops a conceptual model balancing AI-enabled organizational efficiency with long-term knowledge preservation.

Design/Methodology/Approach: A qualitative multiple-case study based on secondary data was conducted. Five AI application contexts were analysed using cross-case analysis to identify recurring knowledge management mechanisms.

Findings: AI improves knowledge accessibility and operational efficiency while transforming knowledge creation, transfer and employee competencies. Knowledge loss results primarily from excessive automation, weakened tacit knowledge transfer and insufficient competence development rather than AI itself.

Practical Implications: The proposed model supports managers in combining AI implementation with governance, mentoring, competence development and knowledge retention practices.

Originality/Value: The study integrates organizational efficiency, employee competencies and organizational knowledge potential into a single conceptual framework supporting organizational knowledge loss risk management.

Keywords: Artificial intelligence, knowledge management, organizational knowledge, knowledge loss, organizational learning.

JEL Codes: D83, M15, O33.

Paper Type: Research paper.

¹Dr., Czestochowa University of Technology, Poland, e-mail: tomasz.lis@pcz.pl;

1. Introduction

Organizational knowledge has long been recognized as one of the most valuable strategic resources, determining an organization's capacity for innovation, adaptation, and sustainable competitive advantage. Effective knowledge management extends beyond knowledge acquisition and utilization to include knowledge creation, transfer, preservation, and the continuous development of employee competencies. In an environment characterized by rapid technological and organizational change, the ability to maintain and develop knowledge resources has become a critical determinant of long-term organizational performance and resilience (Nonaka and Takeuchi, 1995; Davenport and Prusak, 1998; Alavi, Leidner and Mousavi, 2024).

The rapid advancement of artificial intelligence (AI), particularly generative AI, is fundamentally transforming knowledge management processes. AI-based solutions facilitate information retrieval, automate cognitive tasks, support decision-making, and improve access to organizational knowledge, thereby enhancing operational efficiency.

At the same time, they reshape knowledge creation, organizational learning, and employee competence development, introducing new challenges related to preserving tacit knowledge and maintaining organizations' long-term knowledge capabilities (Alavi *et al.*, 2024; Storey, 2025; Gelashvili-Luik *et al.*, 2025).

Recent studies consistently demonstrate the growing importance of generative AI in knowledge management. AI has been shown to improve knowledge creation, storage, organization, retrieval, and dissemination.

However, the literature also highlights significant challenges, including information reliability, technological dependence, tacit knowledge preservation, and changes in employee competencies. Consequently, researchers increasingly emphasize the need for new knowledge management approaches that explicitly integrate human expertise with AI capabilities (Strelau, 2025; Gelashvili-Luik *et al.*, 2025; Zhang *et al.*, 2025).

Despite the rapidly expanding body of research, existing studies focus predominantly on the efficiency gains associated with AI adoption. Considerably less attention has been devoted to its long-term implications for preserving organizational knowledge, sustaining employee competencies, and mitigating the risk of organizational knowledge loss.

Furthermore, the literature lacks comprehensive conceptual models integrating organizational efficiency, employee competence development, and organizational knowledge preservation within AI-enabled environments (Strelau, 2025; Schaetzle *et al.*, 2025; Storey, 2025).

Based on this research gap, the study adopts the following research thesis:

Artificial intelligence is not inherently a source of organizational knowledge loss. Rather, this risk results primarily from the manner in which AI is implemented and managed, particularly in the absence of mechanisms balancing organizational efficiency with employee competence development and organizational knowledge preservation.

This thesis leads to the following research problem:

How can organizations using artificial intelligence mitigate the risk of organizational knowledge loss while simultaneously exploiting AI to improve organizational performance?

Accordingly, the scientific objective of this study is to identify the mechanisms through which artificial intelligence influences the risk of organizational knowledge loss and to determine how organizations can balance AI-driven efficiency with the preservation of organizational knowledge.

The practical objective is to develop an original conceptual model that supports balancing AI utilization efficiency with organizational knowledge preservation. The proposed model is intended to provide organizations with a framework for managing the risk of organizational knowledge loss in AI-supported environments.

To achieve these objectives, four research questions were formulated:

RQ1. *How does artificial intelligence influence organizational knowledge creation, transfer, and utilization?*

RQ2. *Which mechanisms increase the risk of organizational knowledge loss in AI-enabled organizations?*

RQ3. *What role do employee competencies play in mitigating organizational knowledge loss?*

RQ4. *Which management mechanisms enable organizations to balance AI-driven efficiency with organizational knowledge preservation?*

To answer these questions, the study employs a qualitative multiple-case study approach involving five AI application contexts representing different organizational domains. The findings are synthesized to develop an original conceptual model of organizational knowledge loss risk management.

The primary contribution of this article lies in integrating the perspectives of knowledge management, employee competence development, and artificial intelligence into a single conceptual framework. The proposed model addresses an important research gap by explaining how organizations can simultaneously improve

operational efficiency and preserve their long-term organizational knowledge potential.

2. Literature Review

2.1 Organizational Knowledge and Knowledge Loss

Organizational knowledge is widely recognized as one of the most valuable strategic resources, determining an organization's ability to innovate, solve problems, make effective decisions, and maintain a sustainable competitive advantage. Unlike information, knowledge incorporates interpretation, experience, contextual understanding, and the capability to apply information effectively in practice.

Consequently, organizational knowledge should be viewed not only as a resource but also as a dynamic organizational capability continuously developed through interactions among employees, organizational structures, processes, and technologies (Nonaka, 1994; Nonaka and Takeuchi, 1995; Alavi and Leidner, 2001).

Knowledge management encompasses the creation, acquisition, storage, transfer, utilization, and preservation of knowledge. Contemporary knowledge management theories emphasize that organizational performance depends not only on the availability of explicit knowledge but also on the effective integration of explicit and tacit knowledge, continuous employee competence development, and organizational learning.

While explicit knowledge can be codified and stored in documents, procedures, or databases, tacit knowledge remains embedded in employees' experience, intuition, practical skills, and contextual understanding, making it considerably more difficult to formalize and transfer (Nonaka, 1994; Alavi and Leidner, 2001).

The distinction between explicit and tacit knowledge is particularly important when considering the risk of organizational knowledge loss. Explicit knowledge can generally be documented and preserved relatively easily; however, documentation alone does not ensure its effective retrieval or application. Tacit knowledge, in contrast, is closely associated with individuals and social interactions within organizations.

Consequently, the departure of experienced employees may result not only in the loss of technical expertise but also in the disappearance of contextual understanding, decision-making capability, and problem-solving experience. Previous studies therefore emphasize that successful knowledge retention requires transforming individual knowledge into organizational capabilities rather than merely documenting information (Levallet and Chan, 2019).

The literature identifies several major sources of organizational knowledge loss, including employee turnover, retirement, restructuring, organizational change, and inadequate knowledge transfer mechanisms (DeLong, 2004; Mariano *et al.*, 2020; Galan, 2023a). These factors may weaken organizational memory, reduce innovation capacity, increase operational errors, and diminish organizational resilience. Their impact is particularly severe when employees possess highly specialized tacit knowledge that cannot be easily codified or transferred to successors.

To mitigate these risks, organizations employ various knowledge retention mechanisms, including mentoring, succession planning, documentation of expert knowledge, communities of practice, job rotation, intergenerational knowledge transfer, and structured training programs. Existing studies consistently demonstrate that technological solutions alone are insufficient for preserving knowledge assets. Effective knowledge retention requires integrating information technologies with organizational culture, employee collaboration, and continuous competence development (DeLong, 2004; Levallet and Chan, 2019; Cox and Overbey, 2023; Galan, 2023b).

Although traditional sources of organizational knowledge loss have been extensively investigated, recent technological developments have introduced new challenges. Artificial intelligence not only supports knowledge storage and retrieval but also fundamentally transforms how knowledge is created, transferred, interpreted, and utilized within organizations. These developments have shifted scholarly attention toward understanding how artificial intelligence is transforming traditional knowledge management processes and organizational knowledge dynamics.

2.2 Artificial Intelligence and Knowledge Management

Artificial intelligence, particularly generative AI, is fundamentally transforming knowledge management by extending the role of information systems beyond traditional storage and retrieval functions. Contemporary AI systems can analyze large volumes of structured and unstructured information, identify relationships between data, generate recommendations, summarize documents, and provide context-specific responses through natural language interaction. Consequently, AI has evolved from a passive information repository into an active organizational actor supporting knowledge creation, interpretation, transfer, and utilization (Alavi *et al.*, 2024; Storey, 2025).

Recent research consistently demonstrates that AI influences all major knowledge management processes. It supports knowledge creation by facilitating idea generation, identifying patterns, analyzing alternatives, and assisting problem solving. It enhances knowledge storage and retrieval through semantic search and automated organization of information resources. Furthermore, AI improves knowledge transfer by making knowledge resources more accessible across different organizational units while supporting employee learning and onboarding processes

(Gelashvili-Luik *et al.*, 2025; Storey, 2025). However, improved knowledge accessibility does not necessarily strengthen organizational knowledge creation, retention, or long-term preservation.

Despite these advantages, AI also introduces significant organizational challenges. The quality of AI-generated knowledge depends on the reliability of training data, prompt formulation, and human capability to evaluate generated outputs. AI-generated responses may contain inaccuracies, outdated information, or fabricated content, requiring continuous human verification and organizational governance mechanisms (Storey, 2025; Schaetzle *et al.*, 2025).

The increasing integration of AI into organizational processes also changes employee roles. Rather than replacing expertise entirely, AI shifts employees' responsibilities from information retrieval toward problem definition, critical evaluation, contextual interpretation, and decision-making.

Consequently, organizations increasingly require competencies related to AI literacy, critical thinking, analytical reasoning, and human–AI collaboration (Strelau, 2025; Romeo and Conti, 2026).

However, AI adoption may also produce unintended consequences. Several studies identify risks associated with technological dependence, automation bias, declining critical thinking, and the gradual erosion of employee competencies (deskilling). Excessive reliance on AI-generated solutions may reduce opportunities for independent problem solving, experiential learning, and tacit knowledge development, particularly among less experienced employees (Alavi *et al.*, 2024; Zhai *et al.*, 2024; Storey, 2025).

Another important concern relates to organizational learning. While AI significantly improves access to organizational knowledge, it may simultaneously reduce interpersonal interactions through which tacit knowledge is traditionally transferred.

If employees increasingly consult AI systems instead of experienced colleagues, organizations may gradually lose opportunities for mentoring, collaborative learning, and experiential knowledge sharing. Consequently, AI should complement rather than replace human interaction within organizational knowledge processes (Gelashvili-Luik *et al.*, 2025; Schaetzle *et al.*, 2025).

The effectiveness of AI implementation therefore depends not only on technological capabilities but also on organizational design. Existing research emphasizes the importance of human oversight, knowledge validation, governance mechanisms, employee competence development, and socio-technical integration to ensure that AI strengthens rather than weakens organizational knowledge resources (Balage and Sedera, 2026; Gelashvili-Luik *et al.*, 2025).

2.3 Research Gap and Study Rationale

Although previous studies have significantly advanced understanding of AI-supported knowledge management, three important research limitations remain.

First, most studies primarily examine AI from the perspective of productivity improvement and operational efficiency, while considerably less attention has been devoted to its long-term influence on organizational knowledge preservation. Second, existing research typically investigates isolated aspects of AI adoption, such as programming, decision support, customer service, or education, rather than identifying common mechanisms operating across different organizational contexts. Third, the literature still lacks an integrated conceptual framework explaining how organizations can simultaneously enhance AI-driven efficiency, preserve employee competencies, and maintain their organizational knowledge potential.

Addressing these limitations represents both the theoretical motivation and the primary contribution of this study. Using a qualitative multiple-case study approach, this paper identifies common mechanisms through which artificial intelligence influences knowledge processes across different application contexts and develops an original conceptual model integrating organizational efficiency, employee competencies, and organizational knowledge potential.

The proposed framework contributes to knowledge management research by providing an integrated perspective on balancing AI-driven efficiency with the long-term preservation of organizational knowledge.

3. Methodology

The objective of this study was to develop an original conceptual model supporting the balance between AI-enabled organizational efficiency and the preservation of organizational knowledge potential. Particular attention was devoted to identifying the mechanisms through which artificial intelligence influences organizational knowledge creation, transfer, utilization, and preservation.

Given the complexity of the research problem, a qualitative research approach was adopted. This approach enabled an in-depth exploration of organizational knowledge processes and the identification of relationships that would be difficult to capture using quantitative methods.

The study employed a qualitative multiple-case study design based on secondary data analysis. Following Yin (2018), each case represented a distinct organizational or functional context of AI application, enabling the identification of mechanisms through which artificial intelligence influences organizational knowledge management. The unit of analysis was therefore AI application contexts rather than individual organizations. The purpose of the analysis was not to compare the

performance of specific AI solutions or evaluate particular organizations but to identify recurring mechanisms through which AI affects knowledge management across different contexts of application.

The use of multiple cases enabled cross-case comparison and the identification of both common patterns and context-specific differences, supporting analytical generalization and conceptual model development (Eisenhardt, 1989).

Cases were selected using purposive sampling to represent diverse organizational and functional contexts in which organizational knowledge plays a critical role. The selection criterion was the potential to identify both common and context-specific mechanisms through which AI influences knowledge management. Five cases were included in the analysis:

Case 1: GitHub Copilot – AI-assisted software development. The case examines AI support for programming tasks and its implications for software development, programmer competencies, and independent problem solving.

Case 2: Microsoft 365 Copilot – AI support for knowledge workers. The case explores AI-assisted document creation, information processing, and organizational communication.

Case 3: Klarna – AI-supported customer service. The case investigates automation of customer interactions and its implications for procedural knowledge and employee experience.

Case 4: ChatGPT in education. The case examines AI-supported learning, competence development, and independent knowledge acquisition.

Case 5: AI in data analytics and decision support. The case focuses on AI-assisted analytical processes and managerial decision-making.

Together, these cases represent different manifestations of AI-supported knowledge creation, transfer, utilization, and preservation across diverse organizational settings.

The empirical material consisted of secondary data, including scientific publications, corporate reports, reports published by international organizations, official documentation, and published case studies describing AI implementation. The use of multiple data sources supported data triangulation and increased the credibility of the findings.

The research followed a four-stage procedure. First, each case was analyzed individually. Second, all cases were evaluated using a standardized analytical framework. Third, a cross-case analysis was conducted to identify recurring mechanisms and differences across cases. Finally, the findings were synthesized to

develop the proposed conceptual model balancing AI-enabled organizational efficiency and organizational knowledge preservation.

The collected material was analyzed using Qualitative Content Analysis (Mayring, 2022), enabling systematic coding, categorization, and interpretation of the collected evidence. The resulting analytical categories formed the basis for the cross-case comparison and the development of the conceptual model.

To ensure analytical consistency, all cases were examined using the same analytical framework. The evaluation criteria are presented in Table 1.

Table 1. *Analytical framework used for cross-case analysis*

Analysis criterion	Scope of analysis
AI application area	Characteristics of the organizational process and AI solution
Purpose of AI use	Scope and objectives of AI implementation
Impact on knowledge management	Knowledge creation, transfer, utilization, and preservation
Benefits of AI adoption	Efficiency, work quality, and knowledge accessibility
Knowledge loss risk	Effects on tacit knowledge, employee competencies, and organizational learning
Risk mitigation mechanisms	Training, mentoring, knowledge documentation, and human–AI collaboration
Key findings	Main observations supporting conceptual model development

Source: *Own study.*

4. Research Results and Discussion

The cross-case analysis identified five recurring mechanisms, followed by an integrative synthesis of the findings. Although the analyzed cases represented different organizational and functional contexts, similar patterns emerged regarding knowledge accessibility, knowledge creation, knowledge transfer, employee competencies, and organizational knowledge preservation. Rather than presenting individual case descriptions, the results are organized around the mechanisms consistently identified across all analyzed contexts.

4.1 AI Improves Knowledge Accessibility and Operational Efficiency

The first mechanism identified across the analyzed cases concerns the substantial improvement in the accessibility and utilization of explicit organizational knowledge.

Regardless of the application context, AI significantly reduced the time required to retrieve, process, and apply knowledge stored in organizational documents, databases, repositories, and other digital resources.

Experimental evidence demonstrated considerable productivity improvements in software development, where programmers using GitHub Copilot completed coding tasks substantially faster than developers working without AI support (Peng *et al.*, 2023). Similar improvements were reported among Microsoft 365 Copilot users, who experienced faster document preparation, information retrieval, and communication processes (Microsoft, 2023).

Comparable effects were also observed in customer service, where AI-assisted systems accelerated routine interactions and increased operational capacity (Klarna, 2024; Brynjolfsson *et al.*, 2023).

These findings consistently indicate that AI improves access to explicit organizational knowledge and increases operational efficiency. However, improved accessibility does not automatically translate into deeper organizational learning or stronger knowledge creation.

4.2 AI Reconfigures Knowledge Creation and Utilization

The second mechanism concerns the transformation of knowledge creation and utilization processes. Across all analyzed contexts, AI shifted employees' roles from generating complete solutions toward defining problems, evaluating AI-generated outputs, integrating proposed solutions, and validating their correctness.

Evidence from software development illustrates this transformation particularly well. Studies of GitHub Copilot and comparable AI programming assistants show that automatically generated code frequently requires substantial human verification because its correctness, maintainability, and security cannot be assumed (Yetiştiren *et al.*, 2023; Fu *et al.*, 2025). Similar observations were made in knowledge work, where AI accelerates document preparation and information processing while simultaneously increasing employees' responsibility for evaluating generated summaries and recommendations.

The findings demonstrate that AI does not replace knowledge creation but fundamentally changes how organizational knowledge is generated, interpreted, and applied.

4.3 AI Transforms Knowledge Transfer and Organizational Learning

The third mechanism concerns organizational knowledge transfer. Across the analyzed cases, AI substantially increased the availability of explicit and procedural knowledge by making organizational expertise immediately accessible to larger groups of employees.

Evidence from customer service demonstrated that less experienced employees achieved the greatest productivity improvements by using AI recommendations

reflecting practices previously associated with highly experienced consultants (Brynjolfsson *et al.*, 2023). Similar observations emerged in education, where generative AI supported personalized learning by providing explanations, examples, and immediate feedback (Qian, 2025; Bond *et al.*, 2024).

However, the analysis also demonstrates that AI primarily facilitates the transfer of explicit knowledge. Tacit knowledge—including contextual understanding, professional judgement, intuition, and experiential learning—continues to depend on mentoring, collaboration, and interpersonal interaction. Consequently, AI should complement rather than replace human-centered knowledge transfer.

4.4 AI Changes Employee Competencies

A fourth mechanism identified across the analyzed cases concerns changing competence requirements. Rather than eliminating the need for expertise, AI increases the importance of competencies related to problem definition, critical evaluation, contextual interpretation, and decision-making.

Research on AI-assisted software development consistently demonstrates that effective use of GitHub Copilot still requires advanced programming expertise to identify security vulnerabilities, validate generated code, and assess its suitability for specific projects (Zhang *et al.*, 2023; Yetiştirir *et al.*, 2023; Fu *et al.*, 2025). Similar conclusions emerge from educational research, where generative AI may simultaneously support learning while reducing opportunities for independent reasoning if students become excessively dependent on automatically generated answers (Zhai *et al.*, 2024; OECD, 2026).

These findings suggest that successful AI adoption depends on continuous employee competence development rather than technological substitution of human expertise.

4.5 AI Creates New Organizational Knowledge Risks

The final mechanism concerns organizational knowledge risks associated with AI implementation. Across all analyzed contexts, these risks originated primarily from implementation strategies rather than from AI technology itself.

The most frequently identified risks included excessive reliance on AI-generated recommendations, automation bias, declining opportunities for experiential learning, weakened tacit knowledge transfer, and gradual erosion of employee competencies. The Klarna case illustrates this tension particularly clearly. Although AI substantially improved operational efficiency, subsequent organizational adjustments demonstrated that excessive automation could negatively affect service quality and organizational learning, leading the company to increase human involvement in more complex customer interactions (Mukherjee, 2024; Mukherjee and Wang, 2025).

Similarly, research on AI-supported decision-making indicates that organizational performance depends on maintaining appropriate human oversight rather than replacing expert judgement with automated recommendations (Vaccaro *et al.*, 2024; Romeo and Conti, 2026).

Overall, the findings demonstrate that organizational knowledge risks arise primarily from excessive automation without mechanisms supporting competence development, knowledge validation, and organizational learning.

4.6 Cross-Case Synthesis

The cross-case analysis demonstrates that artificial intelligence consistently increases organizational efficiency by improving knowledge accessibility, accelerating information processing, and supporting routine cognitive activities. At the same time, AI fundamentally changes rather than replaces human expertise. Across all application contexts, employees increasingly perform supervisory, interpretative, and decision-making roles instead of routine knowledge-processing tasks.

The principal risk identified throughout the analysis is not the adoption of AI itself but excessive dependence on automated solutions. Organizations focusing exclusively on productivity improvements while neglecting employee competence development, tacit knowledge transfer, and organizational learning may gradually weaken their long-term knowledge potential.

Overall, the findings indicate that sustainable AI implementation requires balancing technological efficiency with continuous investment in employee competencies and organizational knowledge preservation. These findings provide the empirical basis for the conceptual model presented in the following section.

4.7 Conceptual Model Balancing AI-Enabled Organizational Efficiency and Organizational Knowledge Preservation

The cross-case analysis demonstrated that the impact of artificial intelligence on organizations cannot be evaluated solely in terms of operational efficiency or the risk of organizational knowledge loss. AI simultaneously transforms work processes, employee competencies, and organizational knowledge management. These findings indicate that sustainable AI implementation requires balancing technological efficiency with the long-term preservation of organizational knowledge rather than maximizing automation alone.

Based on the empirical findings, an original Conceptual Model Balancing AI-Enabled Organizational Efficiency and Organizational Knowledge Preservation was developed. The model assumes that long-term organizational performance depends on maintaining an appropriate balance among three interdependent dimensions:

organizational efficiency, employee competencies, and organizational knowledge potential. These dimensions are directly influenced by AI implementation and remain interconnected through organizational knowledge management processes.

The analyzed cases consistently demonstrated that AI improves organizational efficiency by accelerating information processing, increasing access to organizational knowledge, supporting decision-making, and automating routine cognitive activities.

However, the findings also indicate that efficiency should not be treated as an isolated organizational objective. Productivity gains achieved at the expense of employee competencies or organizational knowledge preservation may improve short-term performance while simultaneously weakening an organization's long-term capability for learning, innovation, and adaptation.

These findings indicate that employee competencies constitute the central mechanism linking AI implementation with organizational knowledge management. Rather than eliminating the need for expertise, AI changes its nature. Employees increasingly become responsible for defining problems, critically evaluating AI-generated outputs, interpreting recommendations, validating results, and making context-sensitive decisions.

Consequently, competencies related to analytical reasoning, critical thinking, AI literacy, and human–AI collaboration become increasingly important. Conversely, excessive dependence on AI without continuous competence development may contribute to deskilling and the gradual erosion of professional expertise.

The third dimension of the model concerns organizational knowledge potential, encompassing both explicit and tacit knowledge. While AI effectively supports the storage, retrieval, and dissemination of explicit knowledge, the analysis confirms that tacit knowledge continues to depend primarily on experience, collaboration, mentoring, and practical problem solving.

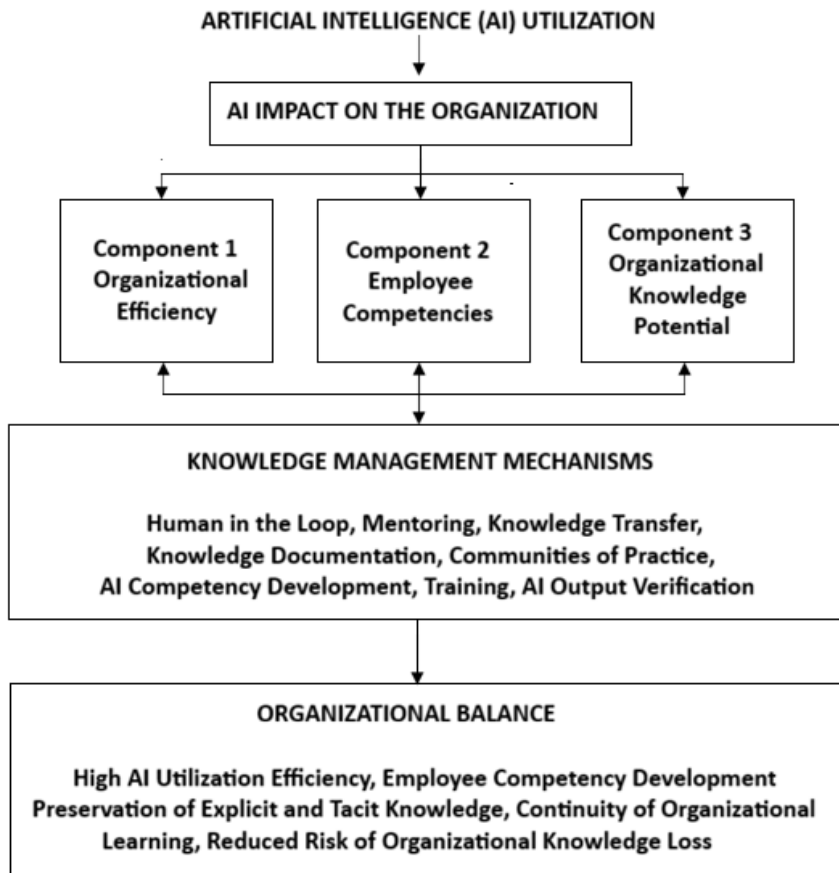
Therefore, preserving knowledge potential requires maintaining organizational conditions that encourage interpersonal interaction, continuous learning, and knowledge sharing rather than relying exclusively on technological solutions.

The proposed model assumes that these three dimensions remain mutually dependent and cannot be managed independently. Sustainable organizational performance requires balancing technological efficiency with competence development and knowledge preservation through appropriate organizational mechanisms.

The cross-case analysis identified several practices supporting this balance, including Human-in-the-Loop governance, mentoring, communities of practice,

systematic documentation of expert knowledge, continuous AI competence development, and organizational procedures requiring validation of AI-generated outputs. Rather than limiting AI adoption, these mechanisms enable its responsible integration into organizational knowledge management while reducing the risk of organizational knowledge loss.

Figure 1. *Conceptual Model Balancing AI-Enabled Organizational Efficiency and Organizational Knowledge Preservation*



Source: Author's own elaboration.

The proposed model emphasizes that successful AI implementation should not be evaluated solely by productivity improvements or the degree of automation achieved. Instead, sustainable organizational competitiveness depends on maintaining an appropriate balance between technological efficiency, employee competence development, and organizational knowledge preservation.

Organizations capable of integrating these three dimensions are better positioned to exploit the benefits of artificial intelligence while simultaneously protecting and strengthening their long-term knowledge potential.

5. Conclusions, Proposals, Recommendations

The proposed conceptual model provides organizations with a practical framework for implementing artificial intelligence while maintaining organizational knowledge potential. Rather than evaluating AI adoption solely through productivity gains or cost reduction, organizations should simultaneously consider its impact on employee competencies, organizational learning, and knowledge preservation.

The model supports managerial decision-making by identifying areas where AI generates operational benefits while creating potential risks related to competence erosion and tacit knowledge loss. Consequently, AI implementation strategies should integrate technological deployment with mechanisms such as mentoring, knowledge documentation, communities of practice, continuous AI competence development, and Human-in-the-Loop governance.

The findings should be interpreted in light of several research limitations. The study employed a qualitative multiple-case study approach based on secondary data sources, which enabled an in-depth exploration of mechanisms but does not allow statistical generalization.

Furthermore, the selected cases were purposefully chosen to represent different organizational contexts, and the proposed model therefore remains conceptual in nature. Empirical validation in organizations actively implementing AI is required to assess its practical applicability.

Future research should focus on testing the proposed model using both qualitative and quantitative methods. In particular, further studies should investigate the relationships between AI adoption, employee competence development, and organizational knowledge preservation across different industries and organizational settings.

Another promising direction involves developing practical indicators that enable organizations to measure the balance between AI-enabled efficiency, employee competencies, and organizational knowledge potential.

The findings demonstrate that the impact of artificial intelligence on organizational knowledge is inherently multidimensional and cannot be assessed solely in terms of operational efficiency. While AI significantly improves access to explicit knowledge, accelerates information processing, and supports a wide range of organizational activities, it also transforms the processes through which knowledge is created, transferred, and utilized.

As a result, the role of employees increasingly shifts from information processing toward problem definition, critical evaluation, contextual interpretation, and decision-making.

The study confirms the proposed research thesis that artificial intelligence is not, by itself, a source of organizational knowledge loss. Instead, the risk primarily arises from the manner in which AI is implemented and managed. Excessive automation, insufficient competence development, and the weakening of mechanisms supporting tacit knowledge transfer may gradually reduce an organization's capacity for learning, innovation, and knowledge renewal.

The multiple-case study enabled the identification of common mechanisms through which AI influences organizational knowledge management across different organizational contexts.

Building on these findings, the study developed an original conceptual model integrating three interdependent dimensions: organizational efficiency, employee competencies, and organizational knowledge potential. The model contributes to the existing knowledge management literature by providing a comprehensive framework for balancing AI-enabled efficiency with long-term organizational knowledge preservation.

The findings suggest that the sustainable value of artificial intelligence depends not on the extent of automation itself but on organizations' ability to integrate technological capabilities with continuous employee competence development and systematic knowledge management. Organizations capable of maintaining this balance are more likely to achieve long-term competitive advantages while minimizing the risk of organizational knowledge loss.

References:

- Alavi, M., Leidner, D.E. 2001. Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, 25(1), 107-136. DOI: 10.2307/3250961.
- Alavi, M., Leidner, D.E., Mousavi, R. 2024. A Knowledge Management Perspective of Generative Artificial Intelligence. *Journal of the Association for Information Systems*, 25(1), 1-12. DOI: 10.17705/1jais.00859.
- Balage, H., Sedera, D. 2026. Integrating Artificial Intelligence with Organisational Knowledge Management: A Grounded Theory Study. *VINE Journal of Information and Knowledge Management Systems*, First Online, pp. 1-24. Emerald Publishing Limited. <https://doi.org/10.1108/VJKMS-01-2026-0025>.
- Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Negrea, V., Oxley, E., Pham, P., Chong, S.W., Siemens, G. 2024. A Meta Systematic Review of Artificial Intelligence in Higher Education: A Call for Increased Ethics, Collaboration, and Rigour. *International Journal of Educational Technology in Higher Education*, 21(1), Article 4, pp. 1-41. SpringerOpen. <https://doi.org/10.1186/s41239-023-00436-z>.
- Brynjolfsson, E., Li, D., Raymond, L.R. 2023. Generative AI at Work. NBER Working Paper No. 31161, National Bureau of Economic Research, Cambridge, MA. <https://doi.org/10.3386/w31161>.

- Cox, V., Overbey, J.A. 2023. Generational Knowledge Transfer and Retention Strategies. *Development and Learning in Organizations: An International Journal*, 37(4), 10-13. DOI: 10.1108/DLO-03-2022-0055.
- Davenport, T.H., Prusak, L. 1998. *Working Knowledge: How Organizations Manage What They Know*. Harvard Business School Press, Boston, MA. ISBN: 978-0-87584-655-2.
- DeLong, D.W. 2004. *Lost Knowledge: Confronting the Threat of an Aging Workforce*. Oxford University Press, Oxford–New York. DOI: 10.1093/acprof:oso/9780195170979.001.0001.
- Eisenhardt, K.M. 1989. Building Theories from Case Study Research. *Academy of Management Review*, 14(4), 532-550. *Academy of Management*. DOI: 10.5465/AMR.1989.4308385.
- Fu, Y., Liang, P., Tahir, A., Li, Z., Shahin, M., Yu, J., Chen, J. 2025. Security Weaknesses of Copilot-Generated Code in GitHub Projects: An Empirical Study. *ACM Transactions on Software Engineering and Methodology*, 34(8), Article 218, pp. 1-34. Association for Computing Machinery (ACM). <https://doi.org/10.1145/3716848>.
- Galan, N. 2023a. Knowledge Loss Induced by Organizational Member Turnover: A Review of Empirical Literature, Synthesis and Future Research Directions. Part I. *The Learning Organization*, 30(2), 117-136. DOI: 10.1108/TLO-09-2022-0107.
- Galan, N. 2023b. Knowledge Loss Induced by Organizational Member Turnover: A Review of Empirical Literature, Synthesis and Future Research Directions. Part II. *The Learning Organization*, 30(2), 137-161. DOI: 10.1108/TLO-09-2022-0108.
- Gelashvili-Luik, T., Vihma, P., Pappel, I. 2025. Navigating the AI Revolution: Challenges and Opportunities for Integrating Emerging Technologies into Knowledge Management Systems. *Systematic Literature Review. Frontiers in Artificial Intelligence*, 8, Article 1595930. DOI: 10.3389/frai.2025.1595930.
- Klarna. 2024. Klarna AI Assistant Handles Two-Thirds of Customer Service Chats in Its First Month. Official Press Release, Klarna Bank AB (publ), Stockholm, Sweden, 27 February 2024. Available at: <https://www.klarna.com/international/press/klarna-ai-assistant-handles-two-thirds-of-customer-service-chats-in-its-first-month/>.
- Levallet, N., Chan, Y.E. 2019. Organizational Knowledge Retention and Knowledge Loss. *Journal of Knowledge Management*, 23(1), 176-199. DOI: 10.1108/JKM-08-2017-0358.
- Mayring, P. 2022. *Qualitative Content Analysis: A Step-by-Step Guide*. SAGE Publications Ltd, London, United Kingdom, 240 pp. ISBN: 978-1-5297-0198-2.
- Mariano, S., Casey, A., Olivera, F. 2020. Organizational Forgetting Part I: A Review of the Literature and Future Research Directions. *The Learning Organization*, 27(3), 185-209. DOI: 10.1108/TLO-12-2019-0182.
- Microsoft. 2023. What Can Copilot's Earliest Users Teach Us About AI at Work? *Work Trend Index Special Report*. Microsoft WorkLab, Microsoft Corporation, Redmond, WA, USA. Available at: <https://www.microsoft.com/en-us/worklab/work-trend-index/copilots-earliest-users-teach-us-about-generative-ai-at-work>.
- Mukherjee, S. 2024. Sweden's Klarna Says AI Chatbots Help Shrink Headcount. Reuters, August 27, 2024. Available at: <https://www.reuters.com/technology/artificial-intelligence/swedens-klarna-says-ai-chatbots-help-shrink-headcount-2024-08-27/>.
- Mukherjee, S., Wang, E. 2025. Sweden's Klarna Shifts AI Focus from Cost Cuts to Growth. Reuters, September 10, 2025. Available at: <https://www.reuters.com/business/swedens-klarna-shifts-ai-focus-cost-cuts-growth-2025-09-10/>.

- Nonaka, I. 1994. A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5(1), 14-37. DOI: 10.1287/orsc.5.1.14.
- Nonaka, I., Takeuchi, H. 1995. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press, New York, NY, USA. ISBN: 978-0-19-509269-1. DOI: 10.1093/acprof:oso/9780195092691.001.0001.
- OECD. 2026. *OECD Digital Education Outlook 2026: Exploring Effective Uses of Generative AI in Education*. OECD Publishing, Paris. DOI: 10.1787/062a7394-en. Available at: https://www.oecd.org/en/publications/oecd-digital-education-outlook-2026_062a7394-en.html.
- Peng, S., Kalliamvakou, E., Cihon, P., Demirer, M. 2023. The Impact of AI on Developer Productivity: Evidence from GitHub Copilot. *arXiv preprint*, arXiv:2302.06590 [cs.SE]. DOI: 10.48550/arXiv.2302.06590. Available at: <https://arxiv.org/abs/2302.06590>.
- Qian, Y. 2025. Pedagogical Applications of Generative AI in Higher Education: A Systematic Review of the Field. *TechTrends*, 69(5), 1105-1120. Springer Nature. DOI: 10.1007/s11528-025-01100-1.
- Romeo, G., Conti, D. 2026. Exploring Automation Bias in Human–AI Collaboration: A Review and Implications for Explainable AI. *AI & Society*, 41, 259-278. DOI: 10.1007/s00146-025-02422-7.
- Schaetzle, A., Zöll, A., Sammet, N., Brack, F.G., Scholz, J., Schwarz, L. 2025. A Research Agenda for Generative AI in Organizational Knowledge Management: Addressing Risks in Knowledge Storage, Retrieval, and Transfer. *Proceedings of the 46th International Conference on Information Systems (ICIS 2025)*, Paper ICIS2025-1397. Available at: https://aisel.aisnet.org/icis2025/is_transformwork/is_transformwork/6/.
- Senoner, J., Schallmoser, S., Kratzwald, B., Feuerriegel, S., Netland, T. 2024. Explainable AI Improves Task Performance in Human–AI Collaboration. *Scientific Reports*, 14(1), Article 31150. Springer Nature. DOI: 10.1038/s41598-024-82501-9.
- Storey, V.C. 2025. Knowledge Management in a World of Generative AI: Impact and Implications. *ACM Transactions on Management Information Systems*, 16(3), Article 26, 1-14. DOI: 10.1145/3719209.
- Strelau, R. 2025. Challenges of Applying Generative AI in Knowledge Management: Insights from a Systematic Literature Review. *Organizacja i Kierowanie*, 198(2), 57-75. Szkoła Główna Handlowa w Warszawie. Available at: <https://econjournals.sgh.waw.pl/OiK/article/view/4404>.
- Vaccaro, M., Almaatouq, A., Malone, T.W. 2024. When Combinations of Humans and AI Are Useful: A Systematic Review and Meta-Analysis. *Nature Human Behaviour*, 8, 2293-2303. DOI: 10.1038/s41562-024-02024-1.
- Yetiştirilen, B., Özsoy, I., Ayerdem, M., Tüzün, E. 2023. Evaluating the Code Quality of AI-Assisted Code Generation Tools: An Empirical Study on GitHub Copilot, Amazon CodeWhisperer, and ChatGPT. *arXiv preprint*, arXiv:2304.10778 [cs.SE]. DOI: 10.48550/arXiv.2304.10778. Available at: <https://arxiv.org/abs/2304.10778>.
- Yin, R.K. 2018. *Case Study Research and Applications: Design and Methods*. 6th ed. SAGE Publications, Inc., Thousand Oaks, CA, USA, 352 pp. ISBN: 978-1-5063-3616-9.
- Zhai, C., Wibowo, S., Li, L.D. 2024. The Effects of Over-Reliance on AI Dialogue Systems on Students' Cognitive Abilities: A Systematic Review. *Smart Learning Environments*, 11, Article 28. DOI: 10.1186/s40561-024-00316-7.

- Zhang, B., Liang, P., Zhou, X., Ahmad, A., Waseem, M. 2023. Practices and Challenges of Using GitHub Copilot: An Empirical Study. In: Proceedings of the 35th International Conference on Software Engineering and Knowledge Engineering (SEKE 2023), San Francisco, CA, USA, July 1-10. Knowledge Systems Institute Graduate School, pp. 124-129. DOI: 10.18293/SEKE2023-077. Available at: <https://ksiresearchorg.ipage.com/seke/seke23paper/paper077.pdf>.
- Zhang, Q., Zuo, J., Yang, S. 2025. Research on the Impact of Generative Artificial Intelligence (GenAI) on Enterprise Innovation Performance: A Knowledge Management Perspective. *Journal of Knowledge Management*, 29(7), 2238-2257. Emerald Publishing Limited. DOI: 10.1108/JKM-10-2024-1198.