
ENHANCING KNOWLEDGE MANAGEMENT THROUGH ARTIFICIAL INTELLIGENCE: A STUDY OF THE INSTITUTE FOR RESEARCH AND DEVELOPMENT, SUAN SUNANDHA RAJABHAT UNIVERSITY

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Abstract

This research aims to: 1) study artificial intelligence (AI) technologies to enhance knowledge management (KM) efficiency at the Research and Development Institute, Suan Sunandha Rajabhat University, and 2) propose techniques for improving KM effectiveness through the application of AI. The findings reveal that personnel exhibit a high level of awareness and usage of AI in KM processes. They recognize the importance of AI and its practical applicability in managing knowledge. Most participants are familiar with or have heard about AI and perceive it as effective in reviewing, storing, and retrieving knowledge, as well as in facilitating more convenient, rapid, and integrated KM practices. However, a deeper theoretical understanding of AI's functioning is still needed to enhance staff knowledge. The evaluation of AI application techniques shows that respondents hold positive attitudes and acceptance toward AI in KM. AI significantly contributes to improving efficiency in information storage, retrieval, workflow guidance, data analysis, and decision-making support. A comparison before and after AI implementation demonstrates marked improvements in KM performance, including data categorization, quick access to information, internal knowledge sharing, and reduction of redundant searches. These results underscore AI's role in enhancing accuracy, speed, and overall effectiveness of organizational knowledge management processes.

Keywords: Efficiency improvement, knowledge management, artificial intelligence (AI) technology

Introduction

Knowledge Management (KM) is a systematic process encompassing the creation, collection, sharing, and utilization of knowledge to enhance organizational effectiveness and sustain competitive advantage. The concept of KM has evolved in response to changes in social, technological, and economic contexts. Initially, knowledge transfer relied on tacit forms such as oral traditions and experiential learning. During the industrial era, increasing organizational complexity led to the documentation of knowledge, marking a shift toward explicit knowledge. In the information and digital eras, advancements in information technology and global networks enabled knowledge to be recognized as a strategic organizational asset, resulting in the development of structured KM systems and knowledge-sharing cultures.

In the era of artificial intelligence (AI) and advanced data analytics, KM has been significantly transformed. AI technologies facilitate the efficient processing, analysis, and

organization of large volumes of data, converting them into valuable and actionable knowledge. AI supports all stages of KM, including knowledge creation, storage, retrieval, decision-making, and personalized learning. However, challenges such as data quality, system integration, security, and user acceptance remain. Despite these limitations, AI enhances KM by elevating it from a traditional operational function to a strategic mechanism that supports sustainable organizational development in the digital age.

Research Objectives

1. To study artificial intelligence (AI) technology to enhance knowledge management (KM) efficiency at the Institute for Research and Development, Suan Sunandha Rajabhat University.
2. To propose techniques for improving knowledge management (KM) efficiency at the Institute for Research and Development, Suan Sunandha Rajabhat University through the application of artificial intelligence (AI).

Scope of Research

1. The population of this study consisted of 22 personnel from the Institute for Research and Development, Suan Sunandha Rajabhat University, including 17 support staff and 5 academic staff.
2. The variables of this study focused on approaches to knowledge management development aimed at enhancing the efficiency of personnel work performance. This was achieved through the application of artificial intelligence (AI) in the knowledge management process to improve knowledge accessibility, facilitate knowledge sharing, and support knowledge creation within the organization.
3. The study was conducted over a six-month period, from March to August 2025.

Literature Review

Bu-nga Chaisuwan, Panpilas Kuldilok, and Chachaya Sakuna (2022) studied the Situations, Trends, and Needs of Knowledge and Artificial Intelligence Skills for Enhancing Work Effectiveness among Working-Age People in Thailand. The study found that while most personnel could use AI for communication effectively, their knowledge and skills varied depending on the type of work, experience, and age. Personnel who had not yet adopted AI in their work had relatively limited knowledge. Organizations expressed a need to develop their personnel's knowledge and skills in AI in three main areas: basic AI knowledge, data management, and AI skills, particularly analytical thinking. Therefore, organizations should develop systematic training courses to enhance the knowledge and skills of working-age personnel in using artificial intelligence for communication.

Jinnawatr Thanpan, Supanee Boonnak, Weerasak Sarak and Sutharad Phorana (2023) studied the Implementation of Knowledge Management to Mahamakut Buddhist University, Srilanchang Campus. The study reveals that knowledge management at Mahamakut Buddhist University, Srilanchang Campus, is implemented at a high level across all dimensions, including knowledge documentation, acquisition, identification, development, and application through sharing and exchange. Knowledge documentation is the most visible stage due to broad personnel involvement, while other stages engage limited groups, leading to partial understanding of the overall process. To enhance effectiveness, the University should align essential knowledge with strategic goals, apply benchmarking, strengthen academic networks, promote research-driven innovation, and encourage cross-functional teamwork. Knowledge

application should be linked to performance evaluation, academic services, and personnel development to enhance organizational value and sustainability.

Chutima Waisurasingha and Chattichai Waisurasingha (2024) *Analyzing the Evolution of Personal Knowledge Management and its Integration with Artificial Intelligence Technology: A Bibliometric Analysis*. The research found that the trend in research on the role of artificial intelligence (AI) in promoting personal knowledge management is continuously increasing, especially in 2024, where AI and generative AI are particularly prominent. This aligns with the work of Nazeer et al. (2023), who indicated that generative AI impacts changes in the processes of knowledge seeking and use by individuals, as well as group work. The study also reflects future research issues regarding the design of learning environments or ecosystems that facilitate the integration of personal knowledge management with AI in creating, sharing, and storing knowledge. At the same time, it suggests integrating AI content into knowledge management education to maintain the effective role of KM in developing human resource capabilities within organizations.

Supatra Pakdee and Theeraphab Phetmalhikul (2024) studied the Guidelines for Application Artificial Intelligence (AI) in Education under the Secondary Educational Service Area Office Bangkok 2. The study found that the application of AI in educational management under the Bangkok Metropolitan Secondary Education Service Area Office 2 covers both its potential and application guidelines. AI plays a role in increasing work efficiency, improving teaching processes, and promoting student learning. The application is divided into two areas: teaching and learning management (e.g., designing learning activities, creating media, assessment, individual student analysis, and AI-powered special classroom curricula) and school administration (e.g., timekeeping systems, student support systems, workforce planning, quality assurance, document management, and budget management). The application guidelines include preparing policies, personnel, data, and technology, coupled with consideration of budget, ethics, data privacy and security, the scope and limitations of AI, and the cost-effectiveness of its implementation.

Barameeboon Sangchan, Chanon Kantarit, and Anan Maneerat (2025) studied the innovative use of AI in teaching undergraduate political science students at Suan Sunandha Rajabhat University. They found that the use of AI had a statistically significant positive impact on the teaching and learning process ($B = 0.530$) and explained 27.9% of the variance in the teaching and learning process. This demonstrates that AI plays a crucial role in enhancing learning efficiency, such as promoting personalized learning, rapid access to information, and increased student participation. However, in terms of adapting teaching methods to students, AI had a minimal impact ($B = 0.160$), explaining only 2.3% of the variance. This reflects that while AI plays a role in developing teaching methods, other factors such as faculty readiness and educational resources have a greater influence. In conclusion, the application of AI in the teaching and learning process is a clear innovation that improves the quality of political science education. However, its development and application still require comprehensive consideration of environmental factors and the readiness of all stakeholders.

Research Methodology

1. Research Methodology In this research, the researchers used questionnaires as a data collection tool, with details and procedures for constructing the instrument.

Research Steps is.

1) Conduct a literature review on concepts, theories, documents, definitions, and related research and textbooks concerning the research topic to guide the formulation of questionnaire questions.

2) Review research methodology and techniques for questionnaire design.

3) Create a questionnaire, determining the content to comprehensively cover the research topic while ensuring respondents can provide factual answers aligned with the objectives.

2. Data Collection In collecting data, the researchers followed these steps:

2.1 Distributed questionnaires to personnel within the research institute at Suan Sunandha Rajabhat University according to the predetermined sample size.

2.2 Scheduled data return, with the researchers collecting the data in person.

2.3 Checked the returned questionnaires for completeness, recorded them as codes, and analyzed the data using a computer program.

3. Data Analysis

3.1 The researchers coded the completed questionnaires (Core) according to the criteria of each component of the instrument.

3.2 The coded questionnaires were then entered into Microsoft Excel to process the collected data and calculate statistical values. The results were then analyzed descriptively to summarize the research findings.

3.3 The data obtained from the open-ended questionnaires were analyzed using content analysis.

Research Results

An analysis of the level of understanding regarding access to knowledge management processes and the status of knowledge management (KM) according to the knowledge management plan of the Institute for Research and Development, Suan Sunandha Rajabhat University, revealed that the overall level of knowledge management performance among the institute's personnel is high. Regarding the personnel aspect of knowledge management, the personnel can apply their work experience to improve their work. In the process aspect, the issue with the highest average score is that the organization evaluates its knowledge management performance to use the results to improve skills and promote collaborative learning among personnel. Finally, in the technology aspect, the issue with the highest average score is that the technology and infrastructure enable effective connectivity throughout the organization for efficient knowledge management.

Discussion

The research findings indicate that personnel within the organization are ready and receptive to the use of artificial intelligence (AI) in knowledge management. This aligns with the trend of digital technology development, where organizations are using AI to improve operational efficiency. AI supports the rapid storage, retrieval, and management of information, reducing work redundancy and increasing time for developing value-added work. This highlights the need for additional training or knowledge enhancement in this area so that personnel can use AI confidently and effectively. These findings are consistent with previous research on the application of technology to develop and manage organizational knowledge, which found that the application of AI increases speed, accuracy, and reduces work redundancy. This aligns with the study by Chutima Waisurasingha and Chattichai

Waisurasingha (2024), which analyzed the development of personal knowledge management and its integration with artificial intelligence. Bibliographic analysis shows that the trend of research into the role of artificial intelligence (AI) in promoting personal knowledge management processes is increasing, as shown in Figure 5, where Artificial Intelligence (A) and Creative Artificial Intelligence (Gen-AI) show a clearer influence from the graph in 2024.

Recommendations

Knowledge management (KM) is a crucial mechanism for organizational development. It requires a genuine desire among personnel to seek and exchange knowledge, coupled with strong and continuous support from management. Establishing clear policies and goals, along with fostering understanding of KM processes among personnel at all levels, will significantly enhance the efficiency of the Research and Development Institute at Suan Sunandha Rajabhat University. Practical recommendations include training to develop knowledge and skills in AI use, creating guidelines or manuals for applying AI in knowledge management, and promoting internal knowledge sharing. Future research should study the use of AI in other contexts or organizations, analyze success factors and limitations, and examine the long-term impact on the efficiency and quality of organizational knowledge management.

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References

- Kuldilok, P., Chaisuwa, B., & Sakuna, C. (2023). Situations, trends, and needs of knowledge and artificial intelligence skills for enhancing work effectiveness among working-age people in Thailand. *Academic Journal of Humanities and Social Sciences Burapha University*, 30(1), 110–134.
- Pakdee, S., & Phetmalaikul, T. (2024). Guidelines for application of artificial intelligence (AI) in education under the Secondary Educational Service Area Office Bangkok 2. *Interdisciplinary Academic and Research Journal*, 4(6), 555–572. <https://doi.org/10.60027/iarj.2024.278760>
- Sangchan, B., Kantarit, C., & Maneera, A. (2025). Innovation in the use of AI in teaching undergraduate students in political science, Suan Sunandha Rajabhat University. *Rajapark Journal*, 19(64), 446–456.
- Thanpan, J., Boonnak, S., Sarak, W., & Phorana, S. (2023). Implementation of knowledge management at Mahamakut Buddhist University, Srilanchang Campus. *Journal of Srilanchang Review*, 9(1), 1–14.
- Waisurasingha, C., & Waisurasingha, C. (2024). Analyzing the evolution of personal knowledge management and its integration with artificial intelligence technology: A bibliometric analysis. *Journal of Information and Learning*, 35(2), 128–141.