

Knowledge Management Practices in the Project Implementation at Kasetsart University

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Abstract

Knowledge management (KM) has increasingly been recognized as a critical mechanism for enhancing organizational capability, innovation, and long-term sustainability in higher education institutions. Kasetsart University (KU) has implemented KM as a strategic tool for improving the quality of services and driving innovations since 2006.

The objective of this study is to examine the knowledge management practices and technologies applied in the implementation processes of ten good practice projects. This study employed a qualitative approach to examine KM practices in ten good practice projects at Kasetsart University using document analysis, project presentations, and in-depth interviews with project representatives and three KM experts' opinions. The data were collaboratively analyzed to ensure triangulation and validity, leading to the identification of common patterns of KM practices, and technologies across the projects.

The results show that KM was embedded in project implementations across all ten cases. KM processes—knowledge integration and sharing, acquisition, and application supported collaboration and information system projects. Reflective learning practices, particularly brainstorming and After Action Reviews (AAR) strengthened continuous improvement and effective KM implementation.

Keywords: After-action review, brainstorming, information technology, knowledge management, good practices

INTRODUCTION

Knowledge is widely recognized as a critical driver of innovation and enhanced organizational performance, particularly through processes of mutual learning and the generation of new perspectives and ideas that strengthen competitive advantage (Roxas et al., 2014). As such, knowledge management (KM) is widely recognized as a critical strategic capability that supports organizational survival and the sustained maintenance of competitive advantage (Cristache et al., 2025, Numprasertchai and Igel, 2005). KM issues have acquired utmost importance in all sectors, especially in the sector of learning activity. The use of KM as a supporting strategy for improving quality of working and learning capability.

In the context of higher education, universities are widely regarded not only as teaching establishments but also as organization that foster research, the creation of new bodies of knowledge and innovation. An effective KM system helps the organization to create, retain, transfer, use and reuse knowledge for improving and sustaining the innovative activities of universities (Numprasertchai et al., 2009).

KM practices were defined as the process of acquiring, storing, sharing, implementing and using knowledge in the organizational learning process with regard to the culture and strategies of the organizations (Kiessling et al., 2009). KM practices directly influence the organizational performance (Gholami et al., 2013).

The integration of KM and information technologies (IT) has become a key factor in educational transformation. KM is also relevant for universities, which use IT enabling tools for managing information and knowledge (Romero-Ochoa et al., 2025).

In summary, KM is recommended as one of interesting learning catalysts for improving organization performance. However, KM practices in working processes in the public university has not yet been fully understood and harnessed. The objective of this study is to explore the KM processes, practices and technologies used in the implementation utilizing 10 good practice projects presented at the KU-KM Day 2025 of Kasetsart University.

KNOWLEDGE MANAGEMENT AT KASETSART UNIVERSITY

Kasetsart University

Kasetsart University (KU), established in 1943, is one of Thailand's leading public universities and the country's first institution dedicated to agricultural education. KU has expanded its academic scope beyond agriculture to encompass science, engineering, technology, social sciences, business, and the humanities. KU operates across four major campuses located in Bangkok, Nakhon Pathom, Chonburi, and Sakon Nakhon, supporting a diverse academic and research ecosystem. KU offers a wide range of undergraduate and postgraduate programs and serves a large academic community comprising approximately 70,000 students and 9,000 academic and supporting staff. KU plays a pivotal role in generating knowledge that addresses national development priorities and global challenges.

KM at Kasetsart University

Kasetsart University (KU) has identified KM as a strategic tool for human resource development, organizational improvement, and institutional transformation. Since 2006, KM has been formally embedded into the university's governance structure, policies, and strategic direction. KU established a university-level KM Committee to govern and promote KM practices across all organizational units. The committee is responsible for developing knowledge management policies, putting plans into action, and monitoring outcomes. KU has also implemented IT as knowledge enabling tools for supporting KM practices (Numprasertchai and Poovarawan, 2008). KM in KU is explicitly positioned as a mechanism to enhance individual competencies, organizational efficiency, and institutional learning capability.

KU has implemented the KU's Community of Practices (KU-CoPs) as a strategic component of KM initiatives for sharing and exchanging knowledge and experiences among university personnel to strengthen capabilities and sustain competitive advantage. KU has also initiated the KU-KM Day, an annual university's knowledge sharing day, to serve as a central platform for exchanging knowledge since 2013. The KU-KM Day integrates multiple KM mechanisms to address different stages of the knowledge lifecycle. Selected good practice or more successful projects were invited to share knowledge about how to manage knowledge in their project in KU-KM day in both oral and poster presentation. This event also provided opportunities for sharing knowledge and learning from KM specialists and others. The latest "KU-KM Day 2025" was arranged at the main conference hall at KU in November 18, 2025.

RESEARCH METHODOLOGY

This study adopted a qualitative research approach to investigate knowledge management practices used in ten good practice projects chosen by KU-KM committees in 2025 based on criteria including concept and its extension, support and engagement, impacts and value, innovation, and promotion of learning organization. Data were collected from multiple sources to enhance methodological rigor and ensure triangulation. First, documentary analysis was conducted to examine KM processes, practices, and technologies embedded in the project implementation. Second, the presentations of the 10 projects at the KU-KM Day 2025 contained thorough explanations of their operational methods, providing contextual insights into the project-level implementation of knowledge management. Finally, in-depth interviews with the project representatives were conducted in collaboration with one university KM expert and two external KM experts in the latest KU-KM Day.

The in-depth interviews were conducted with the project representatives after their oral presentations, aiming to explore how they did it systematically. Each is an unstructured interview, without prepared set of questions. However, the questions delve extensively into more of those left unanswered than those offered orally.

After the KU-KM Day, the comments of KU-CoPs participants were analyzed and synthesized by the same experts to ensure validity and consistency. The expert opinions were also systematically analyzed

by grouping commonality in keywords related to KM approach, key processes or practices, enabling technologies, and KM implications they discovered in the ten projects. The analysis focused on identifying key characteristics and common patterns of KM processes, practices, and technologies across the good practice projects within the context of KU.

RESULTS AND DISCUSSIONS

The analysis of ten good practice projects, which referred as successful projects or good practices projects, reveals varied but consistent patterns in the application of KM processes/practices across different contexts. Although the projects differed in objectives, they presented common approaches to integrating, acquiring, sharing, and applying knowledge. The summary of the ten good practice projects, based on the opinions provided by three KM experts invited to comment on all projects during KU-KM Day, is presented in Table 1.

Table 1: The summary of 10 projects based on the opinions of three KM experts

Project No.	Project Description	KM Approach	Key Processes/Practices	Enabling Technologies
1	PMS: Developing customized Project Management System for 10 internal units	Collaborative system development	Knowledge integration and sharing, SDLC, AAR, Brainstroming	Python, DBMS
2	Conference Management System (CMS): Organizing a university's annual conference using existing technologies.	Integration of technical and managerial knowledge	Knowledge integration and sharing, SDLC, AAR, Brainstroming	WebEx, EasyChair, Python, DBMS
3	Waste Management: Reducing waste in school	Acquire knowledge from external experts	Knowledge acquisition, transfer	-
4	Virtual Exhibition : Creating Virtual 3D Exhibition	Acquisition of external digital knowledge	Knowledge acquisition	360° video, AI tools
5	Smart Media (I): Creating Digital Media and presentation using AI	Self-directed learning through online resources and experiential practice	Knowledge acquisition, application	ChatGPT, YouTube
6	Smart media (II): Generating digital image and video using AI	Application of AI tools for creating contents	Knowledge application	ChatGPT
7	e-Document: Designing and developing e-Document System using AI	Systematic development using AI-assisted tools	SDLC	Python, DBMS, ChatGPT
8	e-Certificate: Developing a system to provide online Certificates	Structured IT development	SDLC	Python, DBMS, ChatGPT

Table 1 (Continued)

Project No.	Project Description	KM Approach	Key Processes/Practices	Enabling Technologies
9	Library of things: Allowing student can borrow several office equipment from library	Web-based inventory management	SDLC, AAR	Google Forms, Web
10	KU Fair Reservation: Design new process and tools to reserve shops and locations in annual university market festival	Process redesign based on lessons learned	AAR, Brainstroming	Google Forms, QR codes

The results indicate that, although these projects were recognized for their effectiveness, most also lacked systematic project management processes, which encompasses multiple knowledge areas across the project life cycle. Most projects focused on the development of information systems and therefore relied primarily on the Software Development Life Cycle (SDLC). Therefore, these projects managed knowledge through formal processes and documentation, reflecting an emphasis on explicit knowledge.

In comparison, projects focusing on learning and creativity, such as Waste Management, Smart Media and Virtual Exhibition, relied on experiential approach. These initiatives emphasized knowledge acquisition from external sources, learning by doing, and reflective practices. Notably, several projects incorporated learning from experience and failure, demonstrating an adaptive approach to KM that supports continuous improvement.

Key KM Processes/Practices

All projects contain KM processes or practices embedded in project management process, even if the project presenters or knowledge providers do not explicitly state it. Based on the discussions and analyses with the three KM experts, prevalent KM processes and practices were observed throughout the ten projects.

Knowledge integration and sharing played a critical role in collaborative and cross-functional projects. AAR was emerged as an important KM practice, particularly in projects that redesigned processes based on reviewed and learned from previous problems. This reflects a growing emphasis on reflective learning and continuous improvement. Brainstorming based on information and knowledge from AAR serve as a powerful and significant KM practice that supports project members for sharing and integrating knowledge embedded in individuals and team. AAR and brainstorming are referred as important KM practices to enhance problem-solving capacity and support the development of projects such as PMS, CMS and KU Fair Reservation projects.

Knowledge acquisition was central to projects that depended on external expertise such as waste reduction, smart media creation, and virtual exhibition projects. These projects had to acquire knowledge

from external experts or external knowledge repositories for creating new knowledge to reach the project objectives and goals.

Knowledge application was evident in projects that transformed acquired and integrated knowledge into concrete outputs, including information systems and online services. These outcomes demonstrate the practical value of KM in improving operational processes and service delivery.

Technologies used as Enabling Tools

The findings demonstrate that nine out of ten good practice projects are tied to IT. Four good practice projects are related to information system development developed using Python and database management systems, with AI employed as a coding assistant to support program development. Most projects relied on accessible and basic existing tools that were sufficient to support effective knowledge sharing and knowledge application, such as ChatGPT. These results show that basic existing tools or technologies are sufficient to enable effective KM processes and practices.

However, the former university KM expert argued that IT adopted across the projects were primarily tools supported by KU in terms of both provision and user training. In cases, involving the development of more complex systems requiring programming and database integration, professional programmers were principally responsible for system development. Therefore, most initiatives were related to IT-based projects. However, sustaining this progress requires continual conceptual clarity to ensure that IT serves as a facilitator of KM rather than a defining aspect, particularly in the university's next stage of KM development.

According to conventional KM concept, one of the prime objectives of KM is to promote efficiency and effectiveness, to improve things, which may be achieved through a range of approaches, not just IT. Indeed, KM-enabling technologies such as IT and AI are crucial enablers of KM. KM processes can significantly improve when integrated with ChatGPT (Sumbal & Amber, 2025). It provides infrastructure for the entire lifecycle, including acquisition, sharing, transfer, integration, and application. IT strengthens an organization's knowledge management capability, improving the speed, quality, and accessibility of knowledge while also enhancing absorptive capacity. However, IT alone is insufficient and cannot replace KM. Effective KM also depends on organizational culture, leadership, and human factors (Alqahtani, 2025).

This could be a critical challenge for organization administrators to ensure that their community does not overemphasize IT and its applications as a guaranteed success feature of KM. Indeed, incorporating KM into work cultures should be encouraged for everyone in organizations.

CONCLUSION

All projects implicitly embedded KM processes within their project management practices, even though these were not explicitly articulated by project presenters. Based on discussions and analyses with three KM experts, four dominant KM processes were identified across the ten good practice projects: knowledge integration, sharing, acquisition, and application. In addition, KM practices such as learning from failure and After-Action Reviews (AAR) played a significant role, particularly in projects that

redesigned processes based on prior experiences. These findings underscore the importance of reflective learning and continuous improvement as integral components of effective KM in project-based contexts.

Basic existing IT tools provided by university were selected as knowledge enabling tools for supporting KM processes and practices in the project management processes. However, KM processes and practices across all good practice projects in this study were generally informal and were neither systematically implemented nor formally evaluated.

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