Strategizing Knowledge Management for Higher Education in the Era of Digital Transformation

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Abstract

Higher Education institutions have rapidly transformed due to the evolution of digital technologies. This has made it necessary to utilize knowledge management (KM) strategies to enhance institutional capabilities and efficiency. The study aimed to explore strategic approaches to implementing KM in higher education institutions, specifically focusing on how digital transformation drives the development of a KM culture. Using King Mongkut's University of Technology Thonburi (KMUTT) as an example of digital adaptation in higher education, one can see where technology has been integrated into KM Practices with digital tools. Data were collected through in-depth interviews with professors and staff who were involved with KM activities. They were asked to discuss organizational culture, digital tools, and strategies. The findings indicated that KMUTT has integrated a KM framework into university strategies, leading to initiatives such as KM Day, sharing events, and Communities of Practice (CoPs), to promote collaboration. A digital platform, Learning Environment (LEB2), was developed to facilitate knowledge sharing. The study emphasized that organizational culture was a crucial factor in the development of a systematic knowledge management approach. A culture blending Clan and Adhocracy values fostered the highest levels of knowledge sharing. Together, these elements—policy support, regular activities, and leadership engagement—reflect a sustainable KM culture aligned with the university's long-term development goals. Areas for improvement include evaluating the effectiveness of strategies, assessing learning outcomes, and aligning with institutional goals. However, challenges remain in digital literacy (LEB2), culture and organizational structure.

Keywords: knowledge management, higher education, digital transformation, organizational culture

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Introduction

Organizations across the globe have faced changes, especially in the digital era. The growth of digital technologies plays an important role in transforming organizational operations, processes, and service deliveries to meet the demands of a quickly changing environment. With these changes, organizations have adapted themselves by using Knowledge Management (KM) which is one of the strategies from the field of human resource development. Experiences from Japanese companies showed that KM is the key to success within their organizations. It is deeply rooted in the ability to manage both explicit and tacit knowledge generated by organizational employees. Knowledge creation activities are considered an integral part of human resource development strategies (Nanoka, 2007).

The private sector in Saudi Arabia has applied KM principles to support organizational development. This adoption aligns with the country's developmental goals of becoming a major global economic leader while transitioning toward a knowledge-based economy. It is believed that the readiness of the private sector plays an important role in this transformation by supporting national growth strategies. A study of four companies in Saudi Arabia aimed to examine their KM practices and organizational readiness to meet customer needs and expectations. The findings suggested that using KM in private sector operations is a proper and strategic direction that matches the country's developmental goals and long-term strategies (Gharamah et al., 2018). The private sector In Malaysia has also implemented KM to support the country's developmental goals. The government aims to transition from a middle-income to a high-income nation with an emphasis on innovation and knowledge-based growth in its national development plans. While many organizations in Malaysia are increasingly interested in KM—especially in generating knowledge and innovation—most are still not able to achieve the desired outcomes in terms of knowledge creation. To better understand what influences knowledge creation in organizations, a study was conducted to examine four key factors: organizational culture (with a focus on knowledge-sharing culture), organizational structure, information and communication technology (ICT), and human capital. The results showed that organizational culture and human capital had a positive influence on knowledge creation. In contrast, the structure of an organization was seen as a potential limiting factor. ICT, while important, played more of a supporting role rather than being a driving force in knowledge creation (Wai Yi & Jaysingam, 2012).

Higher education institutions also confronted the pressure that comes from the speedy development of digital technologies. These impacted ways of teaching, conducting research, and managing operations. Digital transformation made it necessary for the universities to create new methods and criteria to enhance their competitiveness. At the same time, they still needed to keep learning flexible, which is important for long-term development. Knowledge has become a significant strategy in helping universities adapt and grow in this challenging situation. Knowledge helps to improve decision making, encourage innovation, and enhance performance. Knowledge should be accessible, shared, and used among individuals and departments within universities. In this context, KM has emerged as a key approach for higher education institutions and helps to leverage both explicit and tacit knowledge effectively.

Given these considerations, KM—which includes creating, acquiring, transferring, storing, and using knowledge systematically—has managed to become a common practice in many private organizations. It helps build a culture that encourages learning and enhances performance. When KM is applied to public sectors and universities, it often fails to gain traction. Many employees do not clearly understand what KM really means, why their organization needs KM,

or how it benefits their own work. Some view it as additional work requirement that takes up their time, rather than a tool to improve performance. As a result, KM is not fully integrated into daily practices. Knowledge creation, sharing, and its application rarely happen in a systematic way, and this can weaken organizational productivity and innovation.

In higher education, this issue is even more significant. If academic and professional staff are encouraged to build KM culture—by making knowledge sharing a natural part of their routine—it can lead to continuous learning, and a better quality of graduates, research, and academic services. KM can also help universities improve efficiency by turning knowledge into action. This study aims to examine KMUTT's KM strategies (KMUTT, 2009) within a digital transformation environment. This study also emphasizes the influence of organizational culture, digital, technologies, and policy support as key drivers of KM that will lead to the design of a sustainable KM system.

KM not only enables an organization to preserve critical knowledge, but also helps create new knowledge through collaboration, reflective practice, and the use of digital tools. By developing a culture of knowledge sharing and by integrating digital technologies into KM processes, universities can build an environment that supports continuous learning and innovation. KM is now no longer viewed as a stand alone function but becomes embedded in institutional strategy, operations, and daily practices, especially in the era of digital transformation.

Methodology

This study explores how digital technology combines with KM practices through numerous tools and platforms by using KMUTT as a case study. This data was gathered through in-depth interviews and observations with academic and non-academic (support staff) who were responsible for or interested in KM in their offices. Using purposive sampling, a total of 15 participants were selected.

The interviews focused on how organizational culture, digital tools, and institutional strategies support or influence KM within the university. The questions were developed based on a review of related literature and initial interviews with KMUTT staff who were familiar with KM. The questionnaire contained open-ended questions. They covered the participants' understanding of KM, KM policies within their organization, the importance of KM, KM mechanisms and success factors.

The triangulation method was used to ensure the reliability of the data. This included observation, in-depth interviews, and document reviews. The findings from each method were compared and cross-checked for consistency. This helped confirm data reliability and deepened the understanding of the topics. The data were analyzed by using causal analysis to understand the factors that lead to the development of KM culture.

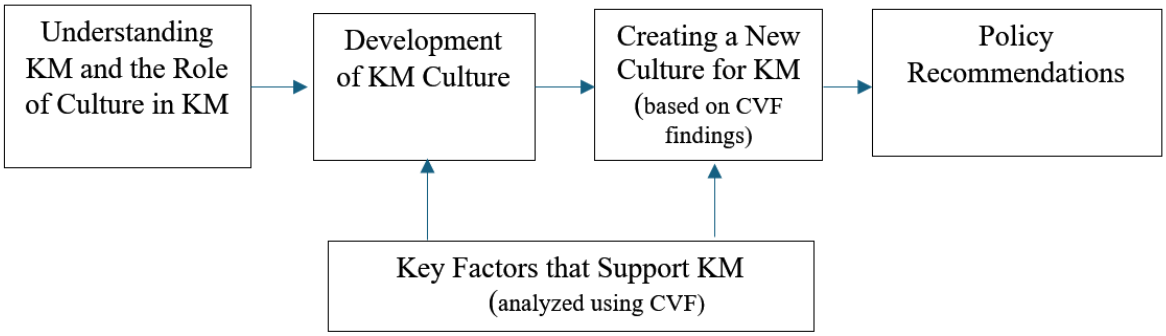
The Conceptual Framework

The conceptual framework of this study underlines the connections among factors that facilitate creating a new KM culture within the university. First, the study tried to understand the definitions of KM and the role of culture in KM in order to help both researchers and readers understand how KM is important to their organization. Second, the study sought to show how KM culture was cultivated and why KM was developed slowly within the university. Third,

the study focused on discovering keys factors that support KM. The key factors in the second and third steps will be analyzed by using the Competing Values Framework (CVF) method developed by Cameron and Quinn (1999). Fourth, the study tried to find out how the results from the CVF analysis will help the university staff learn, share, and create new criteria for working in today's environment. This includes how the results will lead to new culture creation for KM. Fifth, the study provided policy recommendations based on how to generate new culture with KM for the digital era. The conceptual framework of this study is shown in figure 1.

Figure 1

Creating a KM Culture in Digital Age



Results and Discussion

The following findings are from in-depth interviews and observations with KM practitioners at KMUTT and are conducted with university administrators and faculty and support staff.

Results

The results emphasize three main areas: (1) how KM strategies have been developed and implemented within the university; (2) how a knowledge-sharing culture has been fostered through organizational practices; and (3) how KMUTT's internal culture supports knowledge management. These findings are discussed in relation to the broader concepts of organizational learning and digital transformation in higher education.

KM Strategies at KMUTT

KMUTT has integrated KM into its university strategies. The university also systematically supports KM through both policy and operational mechanisms. There are various activities created that help to develop KM culture through time. This includes developing digital platforms to facilitate knowledge sharing, including the following:

- **KM Day and KM Week.** The university has promoted KM activities, KM Day and KM Week, and allows staff from various schools, departments, and offices to share their best practices and achievements. This is done by directors from different offices who encourage staff to write down and present the scope of their job responsibilities. A poster is then constructed showing this work to all participants in order to educate staff on their mutual interests. An area where the examples from the sessions inspired and encouraged knowledge exchange was found in improved productivity. Both KM Day and KM Week are organized annually to show KM progress within departments that actively utilize KM.

- **Community of Practice (CoP).** University staff who are interested in the same issues have set up groups or communities that share their interests. The issues they share include knowledge, problem solving, and work techniques. In the past few years, there have been many networks related to teaching and learning, research, and management that bring together staff to discuss these issues. For example, the CoP network related to registration pays attention to improving registration systems in accordance with new models of teaching and learning. The members of each CoP have an opportunity to improve their work through time, and they can support and offer their services more effectively.
- **Best Practices and Lessons Learned.** The university has manually collected reports of best practices and lessons learned from KM activities since the beginning of the program in document forms. Collecting data with this method makes it difficult to share knowledge with others because the data is not easy to access and distribute. The best practices and lessons learned are then gathered in digital files. This allows academic and support staff to use and learn from these resources. One of the examples of the best practices is Productivity Improvement Projects where work processes and work standards were stored in the Shared function on a Microsoft Team platform. This benefits members of the group so they can access and learn how to improve their work.
- **Learning Environment B2: LEB2 Platform.** KMUTT has developed LEB2, a digital platform, as a knowledge repository for teaching and learning management. In addition to this, LEB2 is used to store and share knowledge related to university work. This includes manuals, work procedures and work processes from different departments. The platform is connected to the university's existing learning management system, making knowledge sharing more accessible and continuous. The staff can learn through lecture videos covering KM Day events and through tips and techniques for improving routine work shared by departments. This information can be accessed anywhere and at any time through computer programs.

Development of KM Culture

KMUTT has encouraged academic and support staff to share their knowledge and experience with others. The ways the university administrators apply and encourage KM culture are as follows:

- **Open Communication and Trust.** Open communication and trust are built among the university members. The university administrators play an important role by supporting and announcing KM policies and activities. The support of the administration and its participation in KM encourages teamwork. This open environment makes the university staff feel comfortable speaking, discussing, and sharing their ideas, knowledge, and skills. One of the executives mentioned during the interview that "the foundation of building a KM culture is trust."
- **Learning from Mistakes.** The university activities related to KM are After Action Reviews (AAR). This event makes it possible for the university members to reflect on what ideas are good, what problems are confronting them, and what work is being done incorrectly. This leads to continuous improvement and creates new knowledge for those whose work is similar to the AAR projects. The message received from interviewees is "A KM culture is being built based on learning from experiences, especially from mistakes. This is a chance for us to improve what we have done wrong. I always attend the AAR".
- **Culture-Building Activities.** The university promotes KM culture building through various events such as KM Day, KM Week, AAR, Show and Share, and R2R (Routine

to Research). If staff keep sharing their ideas, knowledge, and skills through posters or oral presentations of their work and the scope of their job responsibilities, they will see the value of sharing knowledge and make it a part of their daily work. This will foster a stronger connection to the university. This friendly environment can lead to the development of sustainable KM culture at KMUTT.

- **Recognition and Incentives.** Academic and support staff who have won a reward for the best KM projects demonstrating shared knowledge on KM Day or KM Week will be recognized and receive incentives from the university. Recognition will motivate staff to share their experiences, especially employees who have worked for the university for a long time. For example: "I am willing to teach new workers about the job I do, just tell me and give me appreciation of what I have done. Anyway, the university should reward younger people who have just started working for the university". Monetary and other incentives will work effectively with younger staff to encourage them to attend and get involved with KM activities. Therefore, recognition and incentives help to preserve a sustainable KM culture at KMUTT.

Organizational Culture Supporting KM at KMUTT

The culture of an organization impacts KM when it works to support knowledge sharing (Pandya & Gorré, 2011). KMUTT analyzed its culture by using CVF. The CVF emphasizes internal and external indicators, as well as flexibility and stability indicators. The CVF explains that there are four types of organizational culture. Each of them is different in values, beliefs, and behaviors. 1) Clan Culture focuses on building trust, strong relationships, and teamwork within organizations. 2) Adhocracy Culture fosters an organization's ability to change, as well as its creativity and innovation. 3) Hierarchy Culture emphasizes stability, structure, and internal focus. And 4) Market Culture prioritizes competition, results, and external focus (Cameron & Quinn, 1999). The data analyzed from oral interviews showed that KM culture is being built at KMUTT based on a combination of Clan Culture and Adhocracy Culture. This mixture helps the university staff feel safe, discover new ideas, and also motivates them to share knowledge. It brings about sustainable KM by making knowledge sharing a part of their work life.

Discussion

This study analyzed KM implementation within KMUTT, especially in the role of organizational culture and digital transformation. The following issues identified the criteria used when building KM culture.

Cultivating a New Culture

KMUTT has been applying KM since 2002 but there has been little progress in this field. The university staff feel that KM is an additional job. They resisted bringing KM into their work. KM culture has not advanced considerably in the first five-year period. The university administrators expect that staff will work effectively by applying KM with their routine work. The KMUTT KM team discovered that KM is situated within an organizational culture that is difficult to change. Creating KM culture and adding it to the traditional culture will help the university build new culture.

Fostering Behavioral Change

KM culture will not happen within an organization if their staff still work with outdated traditions and procedures. Building a new culture can work more efficiently with a younger staff that is open to change and innovation. The university administrators are trying to encourage the behavior of younger staff by creating a program similar to on the job training. This program lets younger staff learn from experienced KM faculty members through one on one mentorships. This initiative fosters knowledge sharing and is the starting point for building behavioral changes.

Evaluation and Improvement

People who get involved with KM projects will be monitored and evaluated by the KM team. Feedback will be gathered based on KPIs and will be used for refining procedures to gain better results and develop new criteria that will help cultivate KM culture.

There are several obstacles when implementing KM at KMUTT. 1) Digital literacy is one of the major challenges. The digital platforms were established to collect shared knowledge and allow the university staff to access knowledge. Limitations of digital literacy remain when observing the number of staff who access the platforms. Staff can use the platforms but are limited in their ability to create content. 2) Culture is the second barrier. It is difficult to encourage change if departments or schools do not apply KM and permit their staff to join KM events. And 3) Based on bureaucratic office structure, staff from departments and schools need to have the authority to make decisions to get involved with KM events held by the university or other departments.

Policy Recommendations

KM is a key driver for organizational development, especially within higher education institutes. It helps people to rapidly adapt to changes in the digital age. It is a powerful tool that makes organizations sustainable. There are six policy recommendations provided, and these should benefit other higher education institutions.

Promoting KM Culture Within Organizations

Building KM culture by supporting KM sharing activities among staff within organizations is the foundation of KM cultural development and leads to work collaboration. Exchanging knowledge with others encourages people to update their ideas and find new criteria to improve their work.

Developing KM Infrastructure

In the digital era, organizations should enhance infrastructure that is necessary for staff to easily share, access, and use knowledge. KM platforms should be provided university-wide, and data and information should be in real time while covered topics need to be related to university functions.

Developing Human Resources

Human resources are the most important assets of an organization. Higher education institutions should offer training programs, workshops, and seminars related to KM. New technologies are associated with KM platform usage, AI, and Big Data. Staff can then work within a changing environment.

Facilitating the Application of Knowledge to Real-World Work

The added value of KM is that organizations can apply KM to daily work. Manuals and guidelines of KM should be developed, and these will help staff to understand and learn about other work experiences. The knowledge gained from others should help enhance work productivity while also protecting against potential problems.

Building Engagement

Recognition and motivation are the key components that encourage staff to get involved with university KM activities and events. Management policies should reward staff who are outstanding contributors to KM. This will persuade and inspire other personnel to attend and work with KM.

Connecting With Communities and Society

Higher education institutions should work with communities and society by implementing their knowledge and technologies to help develop and solve local problems. This includes working with public and private sectors so the university can enhance their ability to create new ideas and innovation.

Conclusion

KM not only enables an organization to preserve critical knowledge, but also helps create new knowledge through collaboration, reflective practice, and the use of digital tools. By developing a culture of knowledge sharing and by integrating digital technologies into KM processes, universities can build an environment that supports continuous learning and innovation. KM is no longer viewed as a stand alone function but can become embedded in institutional strategy, operations, and daily practices, especially in the era of digital transformation.

References

Cameron, K. S., & Quinn, R. E. (1999). *Diagnosing and changing organizational culture: Based on the Competing Value Framework*. Reading, Massachusetts. Addision-Wesley.

Gharamah, A., Noordin, M. F., Imtiaz, N., & Brohi, I. A. (2018). Knowledge management practice in private sector: Building the way for Saudi Arabia strategic growth and transformation to knowledge-based economy. *International Journal of Engineering and Technology, 7*(2.3). 368–373. http://doi.org/10.14419/ijet.v7i2.34.13915

KMUTT 10-year knowledge management plan (2009–2018). (2009). King Mongkut's University of Technology Thonburi.

Nanoka, I. (2007). The knowledge-creating company. *Harvard Business Review*. July–August 2007, 162–171.

Pandya, K., & Gorré, K. (2011). *Knowledge management: A success key for higher education*. The Federation of Universities.

Wai Yi, L., & Jaysingam, S. (2012). Factors driving knowledge creation among private sector organization: Empirical evidence from Malaysia. *Journal of Organization Knowledge Management,* (12), 199983. http://www.ibimapublishing.com/journals/JOKM/jokm.html

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