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KNOWLEDGE MANAGEMENT IN ASIAN HIGHER EDUCATION: A MULTI-DIMENSIONAL SCOPING REVIEW

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ABSTRACT

Aim/Purpose	Despite rapid digitalisation transforming Asian higher education, knowledge management (KM) implementation remains paradoxically fragmented across the region's diverse institutional landscapes, creating critical theoretical and practical gaps that require systematic investigation.
Background	This scoping review addresses these gaps by examining KM practices in Asian universities through a novel multi-dimensional analytical framework encompassing disciplines, practices, aspects, and stakeholder dynamics.
Methodology	Following the PRISMA-ScR guidelines, we systematically reviewed 29 peer-reviewed studies (2009–2025) from Scopus and Google Scholar across nine Asian countries, highlighting both the field's limited empirical base and emerging contours through thematic coding across four dimensions.
Contribution	The study's primary theoretical contribution is a hybrid 'technology-mediated personalisation' approach. This concept recontextualises Nonaka's SECI model (a framework for converting tacit and explicit knowledge) and challenges existing KM strategy typologies. Furthermore, this paper presents the first multi-dimensional scoping review of KM practices across diverse Asian higher education contexts.
Findings	Knowledge utilisation dominates practice (48% of studies), contradicting Western literature's emphasis on knowledge creation. Institutional management applications significantly outweigh pedagogical implementations.

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Robust multi-stakeholder ecosystems emerge, involving faculty, administrators, and students; yet, university-industry collaboration remains severely underdeveloped. Policy-driven implementation prevails over organic knowledge communities, reflecting distinct cultural adaptations.

Recommendations for Practitioners Institutions should develop integrated KM frameworks balancing policy-driven governance with collaborative knowledge communities, invest in technology platforms supporting multiple KM processes, and strengthen university-industry knowledge transfer mechanisms.

Recommendations for Researchers Future research should focus on developing education-specific KM theoretical frameworks, conducting cross-cultural comparative studies, and investigating emerging AI-enhanced knowledge management technologies in academic contexts.

Impact on Society Enhanced KM practices will improve educational effectiveness, foster innovation ecosystems, and strengthen knowledge-based economic development across Asia's rapidly evolving higher education landscape.

Future Research Critical priorities include longitudinal studies that track the evolution of KM systems, cross-cultural comparative frameworks, research on technology-enhanced knowledge creation, and sustainable university-industry collaboration models.

Keywords knowledge management, higher education, Asian universities, scoping review, stakeholder dynamics, technology integration, institutional practices

INTRODUCTION

Knowledge management (KM) represents a systematic approach to creating, sharing, and utilising organisational knowledge to drive innovation and enhance performance (Alavi & Leidner, 2001; Darroch, 2005). At its core, KM encompasses the processes through which organisations capture, distribute, and effectively employ their intellectual assets to achieve strategic objectives (Garcia-Perez et al., 2020). This discipline facilitates the transformation of tacit knowledge – the personal, experiential knowledge held by individuals – into explicit knowledge that can be formally documented and shared across an organisation (McInerney, 2002). The theoretical foundation of KM is anchored in Nonaka's (1994) seminal SECI Model, which conceptualises knowledge conversion through four interconnected processes. Socialisation involves sharing tacit knowledge through direct interaction and shared experiences; for example, a junior faculty member learning teaching techniques by observing a senior colleague's classroom practices. Externalisation articulates tacit knowledge into explicit forms through dialogue and reflection, such as when educators document their pedagogical insights into formal teaching guides or research methodologies. A combination systematises explicit knowledge by integrating different sources, exemplified when institutions synthesise curriculum guidelines, research findings, and quality frameworks into comprehensive policy documents. Internalisation embeds explicit knowledge back into tacit understanding through practice and application, as when faculty members internalise institutional research protocols into their intuitive research practices (Choo, 1996; Nonaka, 1994; Quarchioni et al., 2022).

Whilst KM frameworks were initially developed and applied within corporate environments, their application has expanded significantly into the education sector. In higher education contexts, KM offers substantial opportunities to enhance teaching practices, research output, and administrative efficiency (Asiedu et al., 2022; Ngoc-Tan & Gregar, 2018). The proliferation of information and communication technologies (ICT) has further amplified KM's potential in academia, enabling institutions to manage increasingly complex knowledge systems while cultivating cultures of continuous learning and innovation (Jan & Contreras, 2016). Recent systematic analyses have demonstrated that effective KM implementation in educational settings can directly improve instructional productivity, promote pedagogical innovation, and facilitate the systematic management of both teaching and research-related knowledge assets (Baslom & Tong, 2019; Kanwal et al., 2019; Petrides & Nodine, 2003).

The focus on Asian higher education is particularly significant due to the distinct cultural, economic, and educational contexts that characterise this region. Building upon Kanwal et al.'s (2019) foundational work on the South Asian context, this review extends the geographical scope to encompass the full breadth of Asian higher education systems, including East Asia, Southeast Asia, and Central Asia. The rapid economic growth trajectories of many Asian countries, coupled with the imperative to adapt global educational standards to intricate local needs, create unique conditions for KM implementation (Galgotia & Lakshmi, 2022). Recent Times Higher Education (THE) data (Sakar, 2025) indicate that Asian universities continue to expand their global presence, with countries such as China, Japan, and India maintaining strong representation in international rankings while simultaneously grappling with localisation challenges (Li, 2023). The fragmented nature of existing research on KM in Asian higher education institutions, combined with the notable absence of integrative conceptual frameworks specific to diverse local contexts, represents a significant gap in the literature that this review aims to address

Given the scarcity of KM research in Asian higher education and the diversity of contexts and methodological approaches involved, a scoping review is the most appropriate methodology for mapping this heterogeneous literature (Peters et al., 2020). Recent methodological advances have further enhanced the rigor and utility of scoping reviews for mapping complex research landscapes. We employ a novel multi-level categorisation framework, segmenting the literature into four key analytical dimensions: *Disciplines, Practices, Aspects, and Stakeholders*. This framework builds upon and extends earlier conceptual approaches by Kanwal et al. (2019), providing a more granular analysis across diverse Asian contexts while maintaining sensitivity to the complex interdependencies that characterise educational ecosystems. To address these research gaps and provide a systematic overview, this scoping review is guided by the following research questions:

- **RQ1.** How is knowledge management applied across disciplines in Asian universities?
- **RQ2.** Which knowledge management practices are most commonly used in different academic fields in Asian universities?
- **RQ3.** What aspects drive the implementation of knowledge management in different academic contexts within Asian universities?

By exploring these questions through a novel multi-level categorisation framework, this review offers a nuanced understanding of KM in Asian higher education. The findings contribute to the theoretical understanding of KM by providing a structured lens through which to examine its manifestations, and they offer valuable insights for policymakers, educators, and administrators seeking to enhance educational effectiveness and innovation through improved KM strategies across Asia.

Literature Review

Theoretical Foundations of Knowledge Management

The conceptual landscape of knowledge management has evolved considerably since it emerged as a distinct field of study. The foundational theories that underpin KM in educational contexts draw from multiple disciplines, including organisational learning, information systems, and educational psychology (Alavi & Leidner, 2001). Central to this theoretical framework is the distinction between tacit and explicit knowledge, first articulated by Polanyi (1966) and later operationalised by Nonaka and Takeuchi (1995). This dichotomy remains fundamental to understanding how knowledge flows within educational institutions, where both forms of knowledge coexist and interact in complex ways (McInerney, 2002).

The SECI Model's application in educational settings has revealed unique characteristics that distinguish academic knowledge conversion from corporate contexts. In universities, socialisation processes extend beyond simple mentoring relationships to encompass research collaborations, conference interactions, and informal academic networks (Quarchioni et al., 2022). Externalisation manifests through scholarly publications, course materials, and institutional repositories, whilst combination occurs through interdisciplinary research and curriculum integration (Choo, 1996). The internalisation process in academia involves not only individual learning but also the formation of institutional memory through established practices and traditions (Ngoc-Tan & Gregar, 2018).

Complementary theoretical perspectives have enriched our understanding of KM in higher education. The resource-based view positions knowledge as a strategic asset that provides sustainable competitive advantage to universities (Asiedu et al., 2022). Dynamic capabilities theory explains how institutions develop adaptive capacities to manage knowledge in rapidly changing educational environments (Garcia-Perez et al., 2020). Social capital theory illuminates the role of relationships and networks in facilitating knowledge exchange amongst academic stakeholders (Ardichvili et al., 2006).

Applications of Knowledge Management in Higher Education

The practical implementation of KM in higher education manifests across three primary domains: teaching and learning, research management, and administrative operations (Galgotia & Lakshmi, 2022). In teaching and learning contexts, KM systems support curriculum development, pedagogical innovation, and student learning analytics (Baslom & Tong, 2019). Digital learning management systems exemplify explicit knowledge repositories, while communities of practice among educators facilitate the sharing of tacit knowledge (Petrides & Nodine, 2003). Research management represents another critical application area where KM principles enhance productivity and innovation. Universities are increasingly deploying research information management systems to capture, organise, and disseminate research outputs (Fernández-Nieto et al., 2024). These systems facilitate collaboration across disciplinary boundaries, enable efficient literature management, and support evidence-based decision-making in the development of research strategies (Santos et al., 2024). The integration of artificial intelligence and machine learning technologies has further enhanced research KM capabilities, enabling sophisticated bibliometric analyses and research trend identification (Carter et al., 2019). Administrative applications of KM encompass strategic planning, quality assurance, and measurement of institutional effectiveness. Universities utilise KM systems to manage accreditation documentation, track performance indicators, and support evidence-based governance (Ayodele et al., 2018). The COVID-19 pandemic accelerated the adoption of digital KM tools for administrative purposes, demonstrating their critical role in maintaining institutional continuity during disruptions (Villanueva, 2024).

The Asian context presents distinctive applications shaped by regional educational priorities. Countries like Singapore and South Korea have pioneered smart campus initiatives that integrate KM with Internet of Things technologies (Jung et al., 2018). China's Belt and Road Initiative has promoted cross-border knowledge sharing through international university alliances (Liu et al., 2025). Southeast Asian nations have leveraged KM for capacity building and educational access expansion, whilst Central Asian countries focus on modernising Soviet-era educational systems through knowledge-based reforms (Hakiman et al., 2019).

Identified Gaps and Challenges

Despite the recognised potential of KM in higher education, existing literature presents fragmented insights with insufficient focus on the collaborative dynamics among diverse stakeholders within educational ecosystems (Quarchioni et al., 2022). Recent comprehensive studies indicate that many educators continue to prioritise immediate instructional practices over broader KM frameworks, reflecting a pervasive lack of awareness and integration of KM principles within educational curricula (Fernández-Nieto et al., 2024; Galgotia & Lakshmi, 2022). This oversight is compounded by the complexities of operationalizing KM, including challenges in defining relevant professional competencies, which often lead to the under-utilisation of key KM principles in educational institutions (Santos et al., 2024). The need for a comprehensive understanding of KM applications is particularly acute within the Asian higher education context. Asian educational landscapes are characterised by rapid evolution, marked by innovative technological integration and adaptation to digital transformation (Carter et al., 2019; Jung et al., 2018). Countries such as China and Japan are pioneering the integration of artificial intelligence and virtual reality into educational frameworks, while others, including India, are leveraging digital platforms to enhance accessibility. Vietnam is advancing towards competency-based curricula (Fernández-López et al., 2018; Hakiman et al., 2019). Contemporary analyses reveal that universities have increasingly focused on implementing knowledge management systems to enhance both academic performance and administrative efficiency, with particular emphasis on human resource management and institutional effectiveness (Ayodele et al., 2018).

However, despite these technological advances, the consistent adoption of KM strategies across Asian higher education institutions remains challenging. Several factors contribute to this implementation gap, including limited awareness and empirical research on KM practices within academic institutions, traditional hierarchical structures that hinder knowledge sharing, and persistent resource constraints (Kanwal et al., 2019; Shih, 2023). Cultural factors also present significant barriers, as traditional Asian values such as hierarchy and collectivism can both facilitate and impede KM initiatives, depending on implementation approaches (Ardichvili et al., 2006). Whilst initiatives in some South Asian countries demonstrate a growing interest in KM for organisational efficiency, these remain largely underexplored empirically across higher educational institutions in the Asian region (Kanwal et al., 2019; Villanueva, 2024). This comprehensive analysis also highlights critical areas for future research and development, particularly where empirical evidence remains scarce.

METHODOLOGY

This scoping review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines (Peters et al., 2020; Tricco et al., 2018; Xia et al., 2024). The review was conducted by four authors: the lead author, who conceptualised the study and led the analysis; a senior professor, who supervised the methodology and synthesis; and two research scholars, who assisted with screening, data charting, and reconciliation.

ARTICLE SELECTION PROCESS

To find the targeted literature, a comprehensive search was initiated in May 2025 across two databases: Scopus and Google Scholar. Scopus is renowned for its rigorous indexing of high-impact, peer-reviewed literature, which ensures a baseline of scholarly quality and validity for the included studies (Pranckutė, 2021). To complement this, Google Scholar was utilised for its broader search algorithm. It is highly effective at capturing emerging research and publications from a wider range of regional journals within Asia that may not yet be indexed in Scopus (Haddaway et al., 2015). We argue that this dual-database approach provides a robust and complementary sample ideal for the objectives of a scoping review, which aims to map the primary contours and key publications in a field rather than being exhaustively comprehensive. This choice is further acknowledged in the limitations section.

The search string deployed as: (“knowledge management” OR KM OR “knowledge sharing” OR “knowledge transfer” OR “knowledge system*”) AND (“higher education” OR university* OR college* OR “academic institute*”) AND (Asia OR China OR India OR Indonesia OR Malaysia OR Pakistan OR Thailand OR Vietnam OR “South Asia” OR “Southeast Asia”) AND (adoption OR implement* OR utilisation* OR integration* OR application* OR practice*))

During the search process, the following core selection criteria were applied in the search engines: (a) peer-reviewed journal articles; (b) written in English; and (c) published between 2009 and 2025. As the search engines of different databases have varying options for setting criteria, the specific search settings were carefully adjusted to suit each database’s interface and capabilities, ensuring consistent application of the criteria. The review’s guiding question was: What are the dominant KM practices, frameworks, and influencing factors reported in empirical studies focused on higher education institutions across Asia? This was further explored via sub-questions on disciplines, KM activities, influencing factors, and stakeholders. All initial screening decisions were made independently by two authors, with any discrepancies resolved through thorough discussion and consensus with the senior author. The complete set of inclusion and exclusion criteria applied throughout the selection process is detailed in Table 1.

Table 1. Inclusion and exclusion criteria

Criteria type	Inclusion criteria	Exclusion criteria
Document type	Peer-reviewed journal articles	Non-journal formats (e.g., books, dissertations, non-journal conference proceedings)
Language	English	Non-English language
Publication year	2009-2025	Outside the 2009-2025 range
Context/focus	Empirical studies focusing on Knowledge Management within higher education institutions	Studies on non-higher education contexts (e.g., industry, healthcare); non-empirical research (e.g., conceptual, theoretical, review papers); studies solely on technical software without KM process relevance
Geography	Focused on Asian geographical contexts (excluding Middle Eastern/Arab nations)	Non-Asian geographical contexts
Subject area (initial filter)	Primary subject area within Social Sciences or related fields (e.g., Business, Education, Information Science)	Other disciplines (e.g., natural sciences, clinical medicine, engineering, Agriculture, and Construction), unless directly addressing social aspects of HE/KM

Article Identification

The initial search and filtering process yielded 3,991 records. These records were managed systematically. Automated filters, based on the criteria for language, subject area, geographical focus, access, document type, and publication year, removed 3,569 records. This left 422 records for manual screening. Manual screening proceeded in two rounds. Round 1, involving independent title and abstract screening by two authors, excluded 370 records. Reasons for exclusion included: 76 duplicates, 46 inaccessible full texts, and 248 clearly irrelevant records (e.g., not focused on higher education, KM, or Asian context). Discrepancies were resolved through discussion. Round 2 involved a full-text assessment of the remaining 52 articles. Two authors independently reviewed each for eligibility. A further 23 articles were excluded for specific reasons: 10 were not primary empirical research, 8 lacked direct focus on KM in higher education, 3 were not in an Asian geographical context, and 2 had other methodological or content irrelevance. All disagreements were resolved by consensus. The final set comprised 29 studies. The entire selection process is visually presented in the PRISMA flow diagram (Figure 1).

Coding and Analysis

We charted data using a multi-level categorisation framework that was developed by the lead author and refined through piloting. This framework systematically extracted and coded information across four dimensions: *Disciplines, Practices, Aspects (contextual factors/enablers/barriers), and Stakeholders*. Two reviewers independently coded each article. Disagreements were resolved through discussion, with the senior author mediating. The final coding matrix is presented in the Appendix. The collated data were thematically synthesised across the four dimensions. Frequency counts and descriptive statistics mapped the distribution and prevalence of KM practices, factors, and stakeholders.

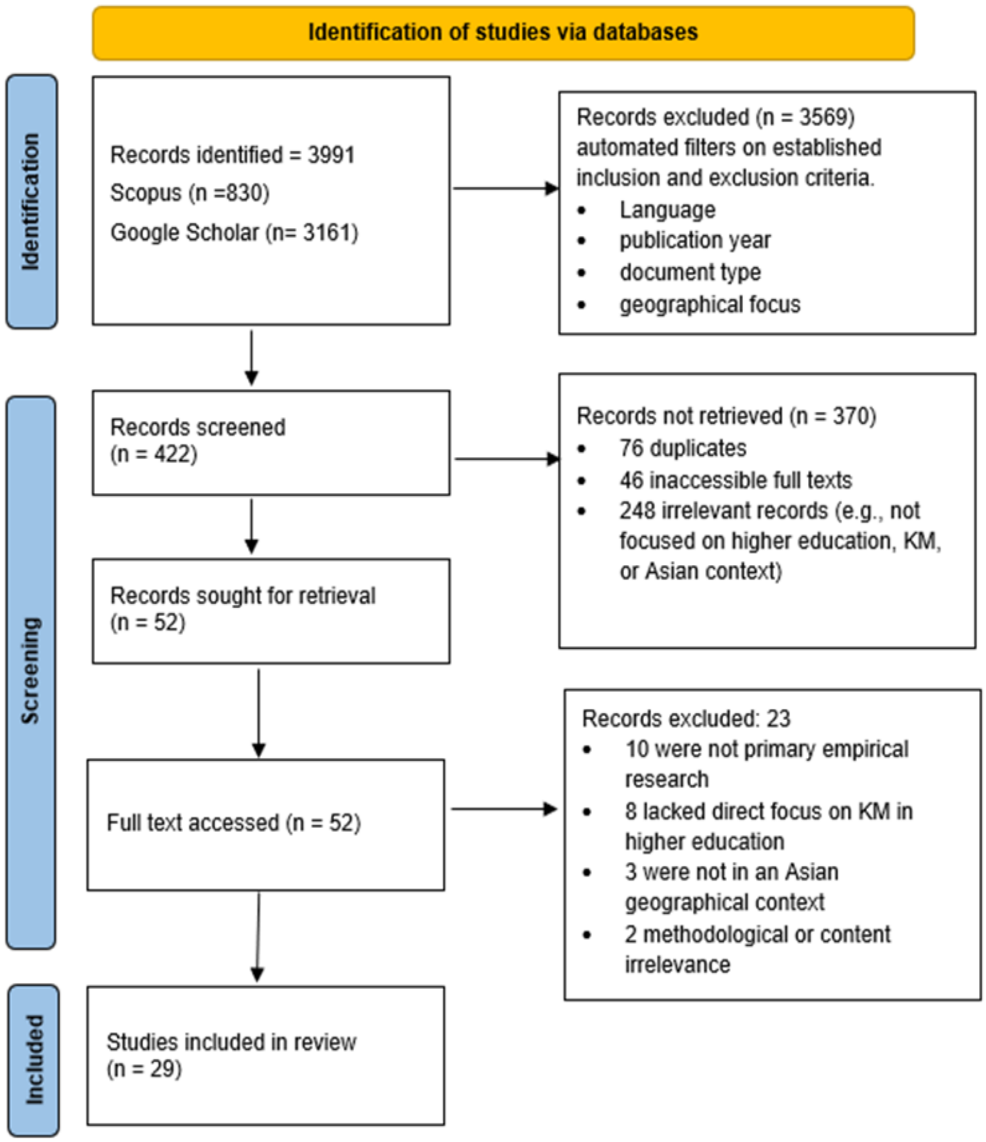

Figure 1. PRISMA flowchart

RESULTS AND FINDINGS

The results of this scoping review provide an overview of KM implementation within Asian higher education. Results delineate its distinct applications across various academic contexts and identify predominant KM practices. Scholarly attention in this area has shown significant growth in recent years. As depicted in Figure 2, the included articles originate from nine distinct countries, with Malaysia and Indonesia being the most frequently represented, followed by China, India, and Vietnam. While three studies were published between 2009 and 2015, the majority of the reviewed literature has emerged since 2017. It is observed that more than half (16 out of 29) of all publications appearing in the last four years (2022-2025), indicating a recent surge in research activity. The subsequent sections elaborate on these findings in detail.

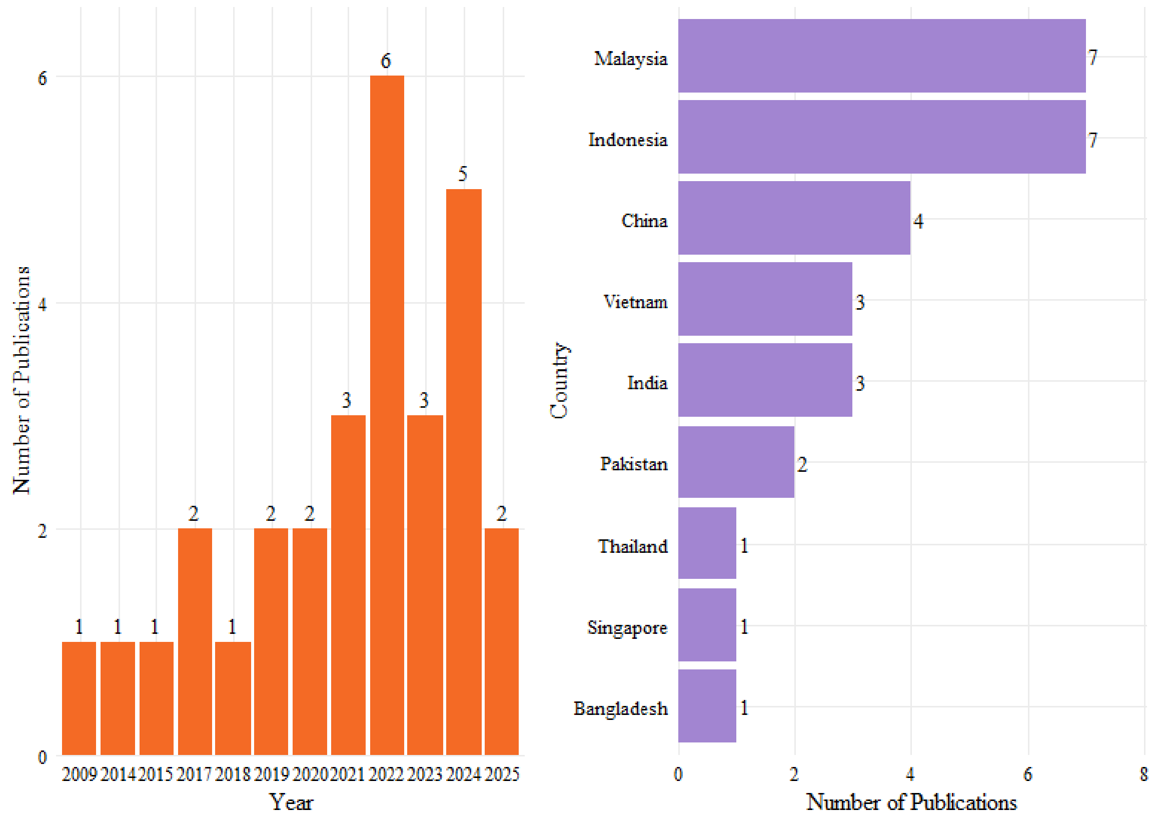

Figure 2. Publication trends in KM

RQ1. How is Knowledge Management Applied Across Different Fields of Study in Asian Universities?

The application of knowledge management (KM) across various academic fields in Asian universities was a central focus of this review. All 29 reviewed studies demonstrated the application of KM within specific disciplines or operational areas. As detailed in Figure 3, the most frequent areas of application included *institutional management*, *student learning*, and *teacher/faculty development*. These three fields collectively accounted for 17 out of the 29 studies, indicating a strong emphasis on administrative efficiency and core educational processes.

KM was most frequently applied within *institutional management* and *administrative functions*, featuring in 13 of the reviewed studies (Ab. Samad et al., 2014; Awan & Ather, 2024; Budiarta, 2015; Devi Ramachandran et al., 2009; Galgotia & Lakshmi, 2022; Graha et al., 2019; Hakiman et al., 2019; Khairi et al., 2024; Khatun & Dar, 2021; Kurniawan et al., 2024; Mahmood et al., 2020; Pham et al., 2021, 2023; Umar et al., 2025). It proved instrumental in enhancing organisational efficiency and university decision-making processes. For instance, high-performance schools in Malaysia adopted KM for knowledge sharing among administrators, optimising management processes, and improving overall school performance (Ab. Samad et al., 2014). Similarly, Indonesian universities applied KM to enhance human capital strategies and institutional performance by utilising stored knowledge for better decision-making and long-term planning (Budiarta, 2015; Graha et al., 2019). More recent work, such as Kurniawan et al. (2024) and Umar et al. (2025), further illustrates the role of KM in enhancing institutional performance and administrative functions within Indonesian and Malaysian universities, respectively.

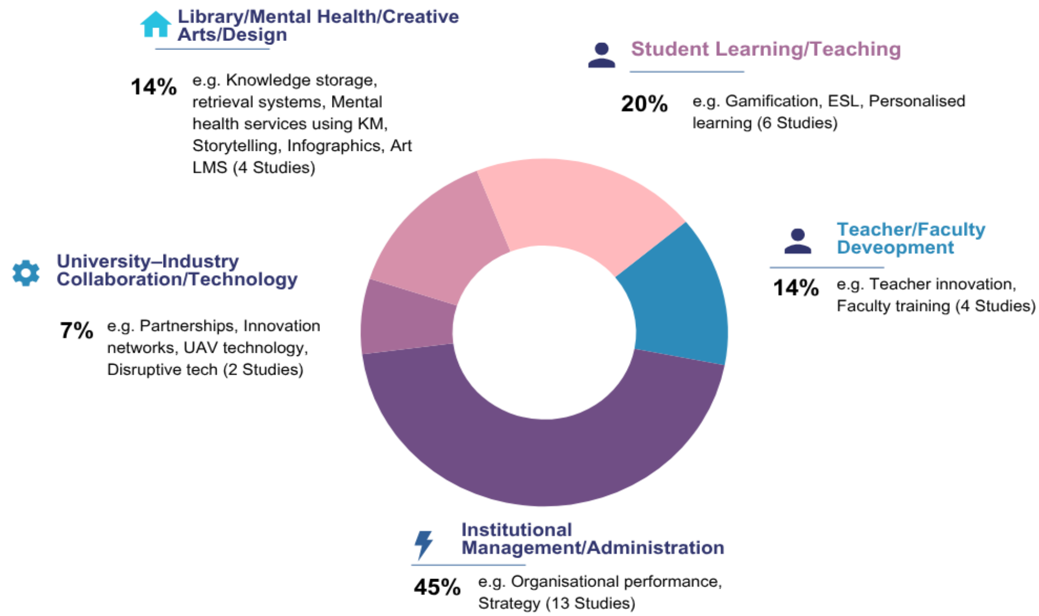

Figure 3. KM application across different fields

Beyond administrative functions, KM also found significant application in core educational processes, particularly in student learning and teacher development. Six studies focused on student learning environments, where KM enhanced personalised learning experiences, often through digital technologies (Ahmed et al., 2022; Bryce et al., 2022; Gonondo, 2017; Ngo et al., 2024; Rulinawaty et al., 2025; Xu et al., 2017). For example, gamification in Chinese classrooms enabled students to engage with customised, interactive learning, while KM integrated with asynchronous instructional videos allowed ESL students in Malaysia to access stored knowledge repeatedly for better language acquisition. Additionally, in creative disciplines, KM through storytelling with infographics encouraged creativity and enhanced student learning (Amnouychokanant, 2023). Recent studies by Ngo et al. (2024) and Rulinawaty et al. (2025) in Vietnam and Indonesia, respectively, further demonstrate KM's impact on enhancing student learning experiences through various applications.

In teacher development, four studies demonstrated KM's role in promoting innovative teaching practices and professional collaboration (Awan & Ather, 2024; Sahoo et al., 2024; X. Wang et al., 2018; Widodo & Gustari, 2020). KM processes in Indonesian schools, for instance, promoted teacher innovation, enabling educators to develop and share new pedagogical strategies (Widodo & Gustari, 2020). Similarly, KM was employed to promote knowledge innovation among faculty members in Chinese universities, often through structured approaches like the analytic hierarchy process (AHP) (Pham et al., 2021). Additionally, Sahoo et al. (2024) and Awan and Ather (2024) provide more recent examples from India and Pakistan, highlighting KM's contribution to faculty professional development and collaborative teaching practices. These applications emphasise KM's contribution to improving pedagogical methods and promoting a collaborative learning culture within academic staff.

KM also facilitates university-industry collaboration, a crucial area for bridging academic research with practical applications. One study specifically highlighted KM's role in promoting partnerships between Indonesian universities and industries, enabling knowledge transfer vital for innovation and research, and development initiatives (Pudjiarti et al., 2022). This stresses KM's capacity to advance external academic engagement and real-world knowledge application. Furthermore, KM has found application in specialised areas such as mental health services and library sciences. In mental health, one study outlined the development of a KM-based mental health service model in Chinese universities. This model systematically stored and shared knowledge related to mental health care among students and professionals, ensuring sustained support for student well-being (Zhang et al., 2022). Simultaneously, in library sciences, one study from Bangladesh demonstrated how university libraries employed KM to manage knowledge repositories, making educational resources more accessible to both faculty and students (Mamun et al., 2023). These applications illustrate KM's versatility in supporting niche academic and support functions.

Beyond the traditional domain, KM's application also extends to technology-enhanced education and creative arts/design. In technology, one study explored KM's role in teaching Unmanned Aerial Vehicle (UAV) technology at Singapore Management University, where knowledge was shared between students, faculty, and industry partners to enhance the practical application of disruptive technologies (Menkhoff et al., 2022). Within creative arts and design, two studies showcased KM's utility. One of these, for instance, involved an investigation into the efficacy of a Learning Management System (LMS) in art and design courses in Malaysia, demonstrating how technology aids KM in facilitating student learning within creative fields (Gee & Pangayan, 2022). These examples emphasise KM's adaptability in supporting innovative and specialised disciplinary contexts.

RQ2. Which Knowledge Management Practices are Most Commonly Used in Different Academic Fields in Asian Universities?

The analysis identified four core KM practices prevalent in the Asian higher education context: knowledge creation, knowledge sharing, knowledge storage, and knowledge utilisation. These core KM processes appeared across all reviewed studies, applied within various disciplines to meet educational, administrative, and institutional goals. *Knowledge utilisation* was the most frequently observed KM practice, featuring in 14 studies. This was followed by *knowledge sharing* (12 studies), *knowledge creation* (10 studies), and *knowledge storage* (5 studies). The distribution and taxonomy of these KM practices are further illustrated in Figures 4 and 5.

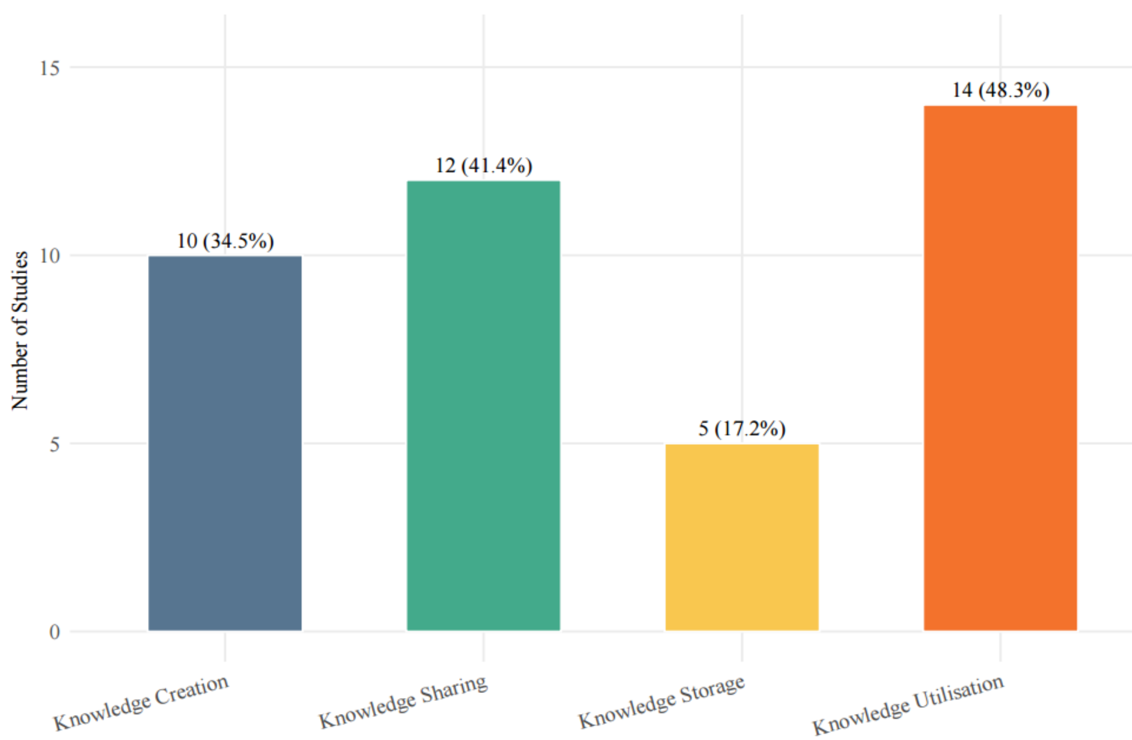

Figure 4. Distribution of knowledge management areas across reviewed studies

Figure 4 shows the frequency of knowledge management practices identified in the literature review of 29 studies. Knowledge utilisation was the most frequently studied area (n = 14, 48.3%), followed by knowledge sharing (n = 12, 41.4%), knowledge creation (n = 10, 34.5%), and knowledge storage (n = 5, 17.2%). Note that studies may have addressed multiple knowledge management areas.

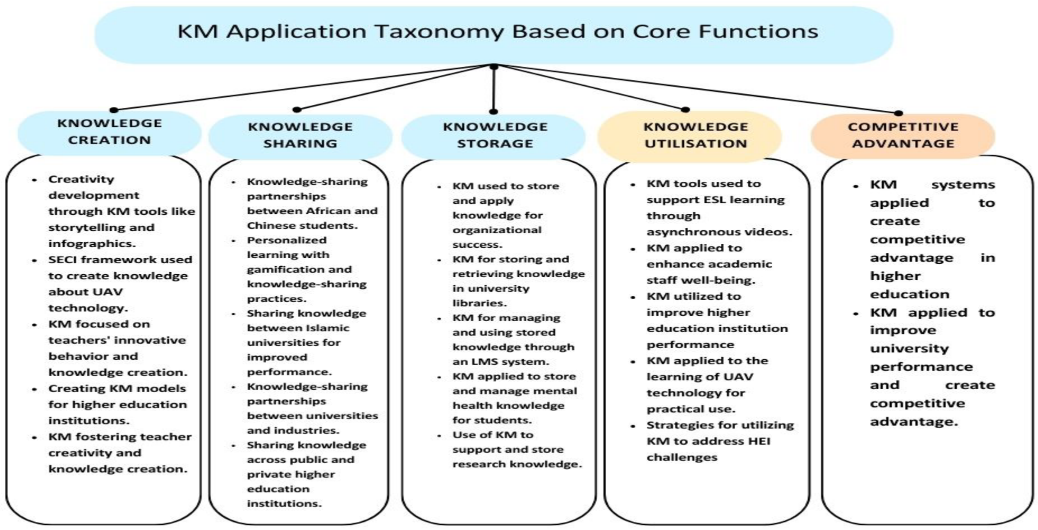

Figure 5. KM application taxonomy

Knowledge utilisation was documented in 14 studies (Bryce et al., 2022; Budiarta, 2015; Gee & Pangayan, 2022; Graha et al., 2019; Kurniawan et al., 2024; Mahmood et al., 2020; Mamun et al., 2023; Menkhoff et al., 2022; Ngoc-Tan & Gregar, 2018; Pham et al., 2023; Rulinawaty et al., 2025; Sahoo et al., 2024; Umar et al., 2025; Zhang et al., 2022). These studies highlight the application of existing knowledge to achieve practical outcomes or improve performance across various contexts. Those include enhancing institutional and organisational performance (Budiarta, 2015; Graha et al., 2019; Kurniawan et al., 2024; Mahmood et al., 2020; Umar et al., 2025) and facilitating student learning through LMS and asynchronous learning videos (Bryce et al., 2022; Gee & Pangayan, 2022; Ngo et al., 2024; Rulinawaty et al., 2025). KM also supported the application of disruptive technologies like UAVs (Menkhoff et al., 2022), contributed to research capacity (Pham et al., 2023), mental health service models (Zhang et al., 2022), and library practices (Mamun et al., 2023).

Knowledge sharing was the second most frequently observed practice, identified in 12 studies (Ab. Samad et al., 2014; Ahmed et al., 2022; Awan & Ather, 2024; Devi Ramachandran et al., 2009; Galgotia & Lakshmi, 2022; Gonondo, 2017; Hakiman et al., 2019; Khairi et al., 2024; Khatun et al., 2021; Mahmood et al., 2020; Pham et al., 2021; Pudjiarti et al., 2022). These studies documented various forms of knowledge sharing across diverse contexts. Findings show the implementation of KM in schools and comparative analyses of KM in public-private higher education (Ab. Samad et al., 2014; Devi Ramachandran et al., 2009). Knowledge sharing was central to cross-border collaborations, university-industry partnerships, and achieving competitive advantage (Mahmood et al., 2020), as well as faculty development (Awan & Ather, 2024). Furthermore, findings highlight knowledge sharing in the context of KM strategies and policies (Hakiman et al., 2019; Khatun et al., 2021), EFL learning environments (Ahmed et al., 2022; Ngo et al., 2024), well-being enhancement (Khairi et al., 2024), and comparative KM strategies (Galgotia & Lakshmi, 2022).

Knowledge creation was documented in 10 studies (Amnouychokanant, 2023; Awan & Ather, 2024; Graha et al., 2019; Ngo et al., 2024; Pham et al., 2021, 2023; Rulinawaty et al., 2025; X. Wang et al., 2018; Widodo & Gustari, 2020; Xu et al., 2017). These studies illustrated how new knowledge was generated across various academic and institutional contexts. This helped promote teacher innovation (Awan & Ather, 2024; X. Wang et al., 2018; Widodo & Gustari, 2020), contributed to organisational performance (Graha et al., 2019), and enhanced research capacity (Pham et al., 2023). Knowledge creation was also observed through methods such as gamification for student learning (Ngo et al., 2024; Rulinawaty et al., 2025; Xu et al., 2017) and storytelling in the creative arts (Amnouychokanant, 2023). Additionally, KM supported knowledge creation through frameworks like the Fuzzy Analytical Hierarchy Process (FAHP) model (Pham et al., 2021).

Finally, knowledge storage was documented in five studies (Bryce et al., 2022; Hakiman et al., 2019; Kurniawan et al., 2024; Mamun et al., 2023; Zhang et al., 2022). This practice primarily involved creating and maintaining digital repositories and archives to preserve knowledge for future use. It is the storage of asynchronous learning videos for ESL students (Bryce et al., 2022) and the management of educational resources in academic libraries (Kurniawan et al., 2024; Mamun et al., 2023). In mental health services, KM was applied to create a knowledge repository for Chinese college students (Zhang et al., 2022). Furthermore, KM strategies and policies were developed to support knowledge storage within institutions (Hakiman et al., 2019).

RQ3. What Factors Drive the Implementation of Knowledge Management in Different Academic Contexts Within Asian Universities?

All reviewed studies identified various factors influencing knowledge management (KM) implementation within Asian universities. These factors included technology use, policies and strategies, innovation and creativity, collaboration, well-being, and organisational performance. Each factor was associated with how KM was adopted and applied across diverse academic fields.

Technology use

Technology emerged as a key factor influencing KM implementation in 7 studies (Bryce et al., 2022; Gee & Pangayan, 2022; Kurniawan et al., 2024; Menkhoff et al., 2022; Ngo et al., 2024; Rulinawaty et al., 2025; Xu et al., 2017). Digital tools integrated into teaching, such as those for Unmanned Aerial Vehicle (UAV) technology at Singapore Management University, facilitated access to and application of knowledge about disruptive technologies (Menkhoff et al., 2022). Technology also supported asynchronous learning videos for ESL education in Malaysia, enabling knowledge storage and sharing (Bryce et al., 2022). Furthermore, KM was applied through Learning Management Systems (LMS) (Gee & Pangayan, 2022; Kurniawan et al., 2024; Ngo et al., 2024; Rulinawaty et al., 2025) and via gamification for student learning (Xu et al., 2017).

Policies and institutional strategies

Institutional policies and strategies were identified as a driving factor in 8 studies (Ab. Samad et al., 2014; Galgotia & Lakshmi, 2022; Hakiman et al., 2019; Khatun et al., 2021; Mahmood et al., 2020; Mamun et al., 2023; Pham et al., 2021; Zhang et al., 2022). These policies typically guided KM implementation, aiming to enhance organisational outcomes or align KM with institutional goals. Administrative policies influenced KM implementation in schools (Ab. Samad et al., 2014) and those related to overall KM strategies (Galgotia & Lakshmi, 2022; Hakiman et al., 2019; Khatun & Dar, 2021). KM implementation was also driven by policies linked to competitive advantage (Mahmood et al., 2020), mental health service models (Zhang et al., 2022), the Fuzzy Analytical Hierarchy Process (FAHP) model (Pham et al., 2021), and KM practices in libraries (Mamun et al., 2023).

Collaboration

Collaboration was identified as a significant factor in three studies (Devi Ramachandran et al., 2009; Gonondo, 2017; Pudjiarti et al., 2022). These studies have highlighted the influence of inter-institutional collaboration (between universities, industries, and other academic institutions) on KM implementation. For example, university-industry collaboration in Indonesia has been shown to facilitate knowledge sharing, promoting innovation and technological advancements (Pudjiarti et al., 2022). Cross-border collaborations also featured KM as a driving factor (Gonondo, 2017). Additionally, KM was examined in the context of public-private higher education institution comparisons, where collaboration played a role in its implementation (Devi Ramachandran et al., 2009).

Innovation and creativity

Innovation and creativity served as a key factor in 5 studies (Ahmed et al., 2022; Amnouychokanant, 2023; Rulinawaty et al., 2025; X. Wang et al., 2018; Widodo & Gustari, 2020). Within academic environments, KM was observed to promote innovation and creativity, particularly where knowledge creation was central. KM enables teacher innovation in Indonesian schools, assisting educators in developing new teaching methods (Widodo & Gustari, 2020). KM also supports innovation strategies among faculty (X. Wang et al., 2018). Furthermore, KM application encourages creativity among students through storytelling with infographics (Amnouychokanant, 2023) and facilitates new knowledge generation by integrating visual and textual elements (Rulinawaty et al., 2025). In EFL learning environments, KM was also linked to promoting innovation (Ahmed et al., 2022).

Well-being

Well-being was identified as a factor in two studies (Khairi et al., 2024; Zhang et al., 2022). KM was observed to contribute to the well-being of students and staff, particularly in contexts focusing on mental health and support services. KM's application helped in developing a mental health service model in Chinese universities, providing students with access to essential mental health resources (Zhang et al., 2022). Additionally, KM was explored in relation to well-being enhancement (Khairi et al., 2024).

Organisational performance

Organisational performance was a significant factor in 9 studies (Awan & Ather, 2024; Budiarta, 2015; Graha et al., 2019; Kurniawan et al., 2024; Ngo et al., 2024; Pham et al., 2023; Sahoo et al., 2024; Umar et al., 2025; Widodo & Gustari, 2020). KM was consistently observed to enhance organisational performance within academic institutions. KM's application also helped in improving institutional and organisational performance (Awan & Ather, 2024; Budiarta, 2015; Graha et al., 2019; Kurniawan et al., 2024; Ngo et al., 2024; Sahoo et al., 2024; Umar et al., 2025). KM also supported organisational outcomes through innovation and organisational behaviour (Widodo & Gustari, 2020). Furthermore, KM contributed to organisational performance by facilitating enhancements in research capacity (Pham et al., 2023).

Involved Stakeholders in KM Practices

All reviewed studies identified various *stakeholders* involved in knowledge management (KM) practices within Asian universities. The most frequently involved stakeholders were the Faculty/Teachers, in 12 of the studies, followed by Administrators (9 studies), and Students (8 studies). Industry was involved in two studies, while Library Users were noted in one study.

Faculty/teachers

Faculty and teachers were identified as key stakeholders in 14 studies (Ab. Samad et al., 2014; Ahmed et al., 2022; Awan & Ather, 2024; Budiarta, 2015; Devi Ramachandran et al., 2009; Galgotia & Lakshmi, 2022; Graha et al., 2019; Khairi et al., 2024; Khatun & Dar, 2021; Pham et al., 2021, 2023; Sahoo et al., 2024; X. Wang et al., 2018; Widodo & Gustari, 2020). Their involvement included professional development (Ab. Samad et al., 2014; Awan & Ather, 2024; Sahoo et al., 2024; Widodo & Gustari, 2020), enhancing teaching methods and educational innovation (Ahmed et al., 2022; X. Wang et al., 2018), and improving research capacity (Pham et al., 2023). They were also involved in KM implementation at the institutional level, including policy adherence and overall KM strategies (Devi Ramachandran et al., 2009; Galgotia & Lakshmi, 2022; Graha et al., 2019; Khairi et al., 2024; Khatun & Dar, 2021; Pham et al., 2021).

Administrators

Administrators were identified as stakeholders in 12 studies (Ab. Samad et al., 2014; Devi Ramachandran et al., 2009; Galgotia & Lakshmi, 2022; Graha et al., 2019; Hakiman et al., 2019; Khatun & Dar, 2021; Kurniawan et al., 2024; Mahmood et al., 2020; Pham et al., 2021; Pudjiarti et al., 2022; Rulinawaty et al., 2025; Umar et al., 2025). Their role often centered on improving institutional performance, administrative efficiency, and decision-making through KM (Galgotia & Lakshmi, 2022; Graha et al., 2019; Kurniawan et al., 2024; Mahmood et al., 2020; Rulinawaty et al., 2025; Umar et al., 2025). Administrators were involved in strategic planning, policy implementation, and human resource management related to KM (Ab. Samad et al., 2014; Devi Ramachandran et al., 2009; Hakiman et al., 2019; Khatun & Dar, 2021; Pham et al., 2021). Their involvement also extended to university-industry collaboration frameworks (Pudjiarti et al., 2022).

Students

Students were identified as stakeholders in 10 studies (Ahmed et al., 2022; Amnouychokanant, 2023; M Bryce et al., 2022; Gee & Pangayan, 2022; Gonondo, 2017; Menkhoff et al., 2022; Ngo et al., 2024; Rulinawaty et al., 2025; Xu et al., 2017; Zhang et al., 2022). Their involvement focused on enhancing learning experiences through KM applications like gamification (Ngo et al., 2024; Rulinawaty et al., 2025; Xu et al., 2017) and Learning Management Systems (Gee & Pangayan, 2022). KM facilitates student access to knowledge resources (Bryce et al., 2022; Menkhoff et al., 2022; Zhang et al., 2022) and promotes creativity and knowledge generation (Amnouychokanant, 2023). Students were also subjects of KM interventions aimed at improving mental health services (Zhang et al., 2022) and general learning environments (Ahmed et al., 2022).

Industry

Industry stakeholders were identified in two studies (Menkhoff et al., 2022; Pudjiarti et al., 2022). Their involvement primarily concerned collaboration with universities for knowledge exchange and application. Examples included university-industry collaboration to promote innovation and technological advancements (Pudjiarti et al., 2022). Industry also interacted with students in contexts of disruptive technologies (Menkhoff et al., 2022).

Library users

Library users were identified as stakeholders in one study (Mamun et al., 2023). Their engagement related to KM practices within university libraries, specifically concerning knowledge storage and retrieval processes.

DISCUSSION

The findings of this scoping review, analysed through our multi-dimensional framework of Disciplines, Practices, Aspects, and Stakeholders, reveal diverse conceptualisations of KM implementation in Asian higher education institutions. We have several key approaches to KM that have emerged, as illustrated in Figure 6. This synthesised model, based on analysis, demonstrates that KM in higher education manifests through multiple interconnected dimensions. These are process-oriented approaches, technology-driven implementations, Organisational goals, contextual adaptation strategies, policy-driven implementation, applied knowledge, and global perspectives. These emerging themes highlight the complex, multi-layered nature of KM practices within diverse Asian academic settings, providing an empirical foundation for understanding their varied implementations and impacts.

The following sections present our findings according to each dimension of our analytical framework, exploring how these conceptual approaches manifest across different disciplines, practices, aspects, and stakeholder perspectives.

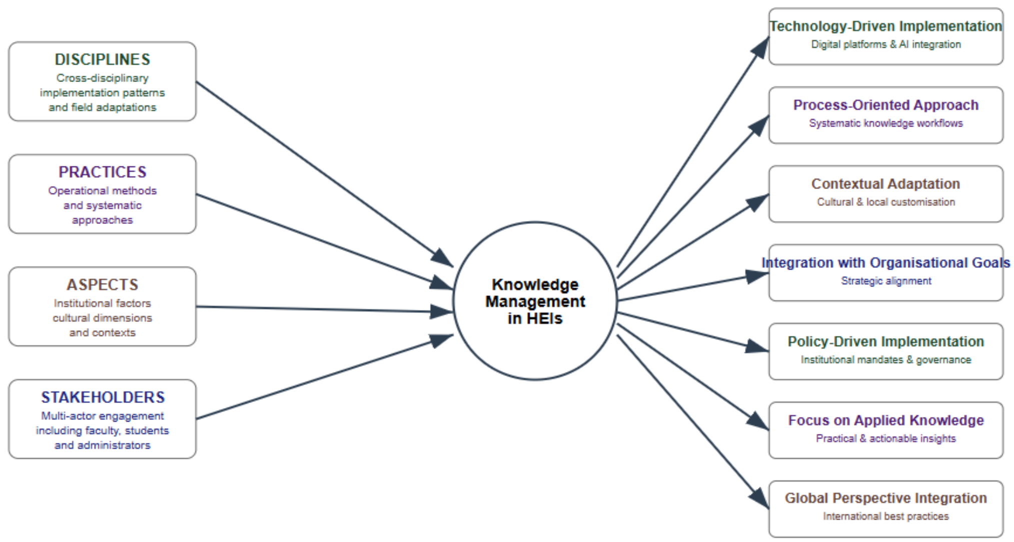

Figure 6. KM conceptualisation in Asian HEIs

Note: Four analytical dimensions inform KM implementation, leading to seven distinct conceptualisation approaches in Asian HEIs. Each approach reflects different institutional priorities, contexts, and stakeholder needs across the region.

Synthesis of Key Findings

The analysis of 29 studies reveals that KM in Asian universities operates through a multi-dimensional framework encompassing diverse application domains, core practices, implementation drivers, and stakeholder configurations. The predominance of institutional management applications signals a strategic orientation toward administrative efficiency and organisational optimisation (Barkov & Dorokhina, 2025). This finding aligns with recent comparative studies by Galgotia and Lakshmi (2022), who demonstrated that knowledge management practices differ significantly between public and private institutions, with private universities showing stronger leadership-oriented KM approaches. However, the substantial presence of KM in student learning and teacher development suggests an expanding recognition of KM's pedagogical potential, extending beyond traditional administrative boundaries. This pattern resonates with Hendradi's (2024) study, which states that contemporary higher education institutions require comprehensive KM models addressing multiple stakeholders' needs simultaneously. The core KM practices identified: knowledge sharing, utilisation, creation, and storage- mirror established KM process models (Alavi & Leidner, 2001). Yet their relative prevalence reveals important insights about Asian higher education priorities.

Knowledge utilisation, with a high prevalence, reflects a strong focus on applying existing knowledge to improve various aspects of higher education, while knowledge sharing, with frequent appearance, highlights the collaborative imperatives increasingly recognised in academic environments (Annansingh et al., 2018). This contrasts with studies that found significant differences in knowledge gathering and retention practices between Asian, European, and Gulf Cooperation Council universities, while sharing and creation remained relatively consistent (AlQudah et al., 2023; Hendradi, 2024; Ramona & Alexandra, 2019). Further, a review by Al-Kurdi et al. (2018) supports our findings regarding knowledge sharing prevalence, demonstrating that collaborative knowledge practices significantly enhance institutional performance when properly supported by technological infrastructure. This finding contrasts with corporate KM literature, where knowledge creation often receives primary emphasis, suggesting that educational contexts prioritise knowledge dissemination over novel knowledge generation (Akhavan et al., 2012; Nonaka, 1994; Nonaka et al., 2006). This pattern may reflect cultural values emphasising collective knowledge building prevalent in Asian educational contexts (Bhusry et al., 2011).

Theoretical Implications and Contributions

Extension of Nonaka's SECI model

The findings offer nuanced insights into how Nonaka's (1994) Socialisation-Externalisation-Combination-Internalisation (SECI) model applies within Asian higher education. While this review demonstrates extensive evidence of *Externalisation* through digital repositories and *Combination* through structured institutional knowledge systems, the *Socialisation* and *Internalisation* phases appear underutilised. This imbalance suggests that universities in the Asian region may be prioritising explicit knowledge management over tacit knowledge transfer processes. This potentially limits the full realisation of organisational learning capabilities. Additionally, the predominance of knowledge-sharing practices, particularly through digital platforms and structured systems, indicates strong combination processes where explicit knowledge is reconfigured and disseminated (Stevens et al., 2010). However, the limited evidence of mentoring programmes, communities of practice, and informal knowledge exchange suggests that insufficient attention is being given to socialisation processes, which are critical for the transfer of tacit knowledge (Wenger, 1998). This finding also expands SECI model applications by highlighting context-specific implementation patterns. These patterns may reflect cultural preferences for formal, structured knowledge exchange over informal collaborative networks.

Reconceptualising KM strategy typologies

The findings challenge the rigid codification vs. personalisation dichotomy by revealing a hybrid strategy prevalent in Asian higher education (Bolisani et al., 2020; Gammelgaard & Ritter, 2005). Where digital repositories and formal storage systems reflect codification, collaborative initiatives involving faculty, administrators, and students show personalisation elements (Basten et al., 2017). In many cases, these do not exist separately but interweave – explicit knowledge preservation alongside tacit knowledge sharing. A particularly important theoretical contribution is the identification of "technology-mediated personalisation", which we define here as:

> A knowledge management approach, whereby technological platforms (e.g., digital collaboration tools, virtual spaces, learning management systems) are used to facilitate and enhance personal human interactions, enabling tacit knowledge sharing and socialisation, rather than substituting or replacing them.

This differs from pure codification (emphasis on storing and retrieving explicit knowledge) and from traditional personalisation (face-to-face or peer-to-peer interaction without technological mediation). In our data, technology-mediated personalisation appears when tacit knowledge exchange is supported by tools, e.g., synchronous or asynchronous digital platforms enabling dialogue, mentoring, and shared problem solving among dispersed actors. This concept also provides a contemporary lens to extend the SECI model (Socialisation, Externalisation, Combination, Internalisation) (Nonaka & Takeuchi, 1995). Socialisation increasingly occurs in "cyber-ba" or virtual shared contexts, not just in physical spaces (Bartolacci et al., 2016). Studies during the COVID-19 pandemic have shown that "cyber ba" (virtual/shared environment) facilitates socialisation and internalisation in teaching and learning contexts (J. Wang & Kim, 2023). Externalisation and Combination processes are being reshaped, as technology enables externalisation through online collaborative tools (such as blogs and collaborative writing) and combination through the integration of explicit digital artefacts (e.g., shared multimedia resources) (Sian Lee & Kelkar, 2013). Internalisation is enriched when learning (from explicit knowledge) occurs through experiences mediated by technology (e.g., virtual discussions, reflective online activities) rather than only via physical practice.

Thus, "*technology-mediated personalisation*" we theorise as overlaying or intersecting all four SECI phases. It supports socialisation through virtual interaction; enables externalisation when tacit ideas are made explicit via tech-tools; supports combination as explicit content is reassembled and reused; and aids internalisation when individuals reflect and incorporate knowledge via mediated experiences.

Evidentiary Support and Practical Applicability of the Model

To address the need for empirical evidence demonstrating the practical applicability of our theoretical contribution, we present concrete manifestations of "*technology-mediated personalisation*" identified through systematic analysis of the reviewed studies. Our analysis revealed three distinct implementation patterns that collectively substantiate the operational validity of our proposed framework.

Pattern 1: Technology-Enhanced Knowledge Dissemination

The first pattern demonstrates how digital platforms transform traditional knowledge-sharing practices into more dynamic, accessible formats. Empirical evidence from Ahmed et al. (2022) documented the transitional phase in Pakistani EFL contexts, where conventional classroom discussions are gradually being augmented by digital tools. More compellingly, Ngo et al. (2024) quantitative study of ChatGPT adoption among Vietnamese students provided robust statistical evidence: student engagement with the platform for knowledge sharing and application demonstrated a significant positive correlation with overall learning satisfaction. This progression from traditional to technology-mediated approaches illustrates the foundational layer of our framework, the digital enablement of knowledge exchange processes.

Pattern 2: Asynchronous Personalised Knowledge Acquisition

The second pattern addresses the critical dimension of individualised learning trajectories enabled through technology. Bryce et al. (2022) systematic review of asynchronous video use for ESL learners, while revealing a gap in empirical research, identified high-quality instructional videos as a promising mechanism for supporting self-paced, personalised knowledge internalisation. This finding directly validates our framework's emphasis on technology-mediated personalisation, where learners engage with educational content at their own pace and according to their individual needs. The asynchronous nature of these tools exemplifies how technology can accommodate diverse learning preferences and schedules, core tenets of our proposed model.

Pattern 3: Cross-Boundary Knowledge Ecosystems

The third pattern demonstrates how knowledge management frameworks facilitate boundary-spanning collaboration between academic and external communities. Pudjiarti et al. (2022) provided evidence from Indonesian universities showing that effective knowledge management mechanisms significantly enhanced academic innovation within university-industry partnerships. This is further substantiated by Menkhoff et al.'s (2022) case study of Singapore Management University's course on disruptive technologies, which was explicitly designed as a strategic KM initiative. The course architecture facilitated multi-directional knowledge flows among students, faculty, and industry stakeholders, demonstrating measurable improvements in knowledge creation and application.

Integrating Empirical Patterns with Theoretical Framework

These three empirical patterns converge to validate distinct but interconnected components of our proposed framework (see Figure 7). Pattern 1 establishes the *digital infrastructure layer*, Pattern 2 validates the *personalisation mechanism*, and Pattern 3 demonstrates the *collaborative ecosystem dimension*. Collectively, these patterns provide empirical grounding for our theoretical assertion that technology-mediated personalisation in knowledge management operates through a multi-layered system where digital tools, individualised learning pathways, and collaborative networks synergistically enhance knowledge processes in educational contexts.

The consistency of these patterns across diverse geographical contexts (Pakistan, Vietnam, Indonesia, Singapore) and educational settings strengthens the generalisability of our framework, while the variation in implementation approaches demonstrates its adaptable nature, a crucial attribute for practical applicability.

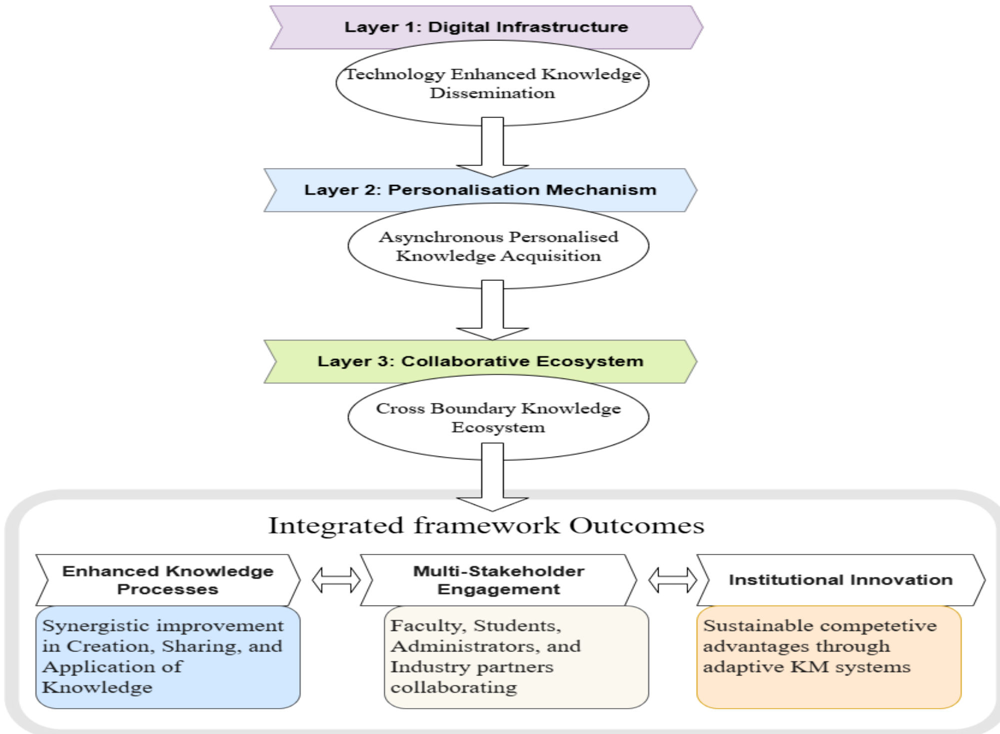

Figure 7. A framework for technology-mediated personalisation in higher education

Contextual Factors and Implementation Drivers

Institutional policies as KM enablers

The prominence of policies and institutional strategies as implementation drivers highlights the critical role of formal governance structures in KM success within Asian universities. This finding resonates with institutional theory perspectives of DiMaggio and Powell (1983) and recent empirical work by Galgotia and Lakshmi (2022) demonstrating that policy-driven KM implementation in Indonesian higher education institutions produces more sustainable outcomes than bottom-up initiatives. However, this heavy reliance on top-down policy initiatives may also reflect hierarchical organisational cultures common in Asian educational institutions, potentially limiting bottom-up knowledge innovation. Recent comparative research by Devi Ramachandran et al. (2009) between Malaysian public and private higher education institutions reveals that while policy frameworks provide necessary structure, their effectiveness depends significantly on implementation approaches that balance institutional control with academic autonomy. This policy-driven KM implementation pattern contrasts with Western literature, which emphasises organic, emergent KM communities (Brown & Duguid, 2001). Further, the policy-centric approach identified in our review aligns with contemporary research advocating for structured KM implementation templates adapted to local institutional cultures (Agarwal & Marouf, 2016)

Technology integration patterns

Technology's role as an implementation driver reveals both opportunities and limitations in current KM practices. While Learning Management Systems, gamification platforms, and digital repositories demonstrate technological sophistication, the emphasis on storage and sharing functions suggests underutilisation of technology's potential for knowledge creation and innovation. Recent research by Ranjan et al. (2024) examining the AI-Knowledge management nexus demonstrates the transformative potential of intelligent systems for sustainable learning environments (Huang et al., 2024; Mooradian, 2024). Yet our findings indicate that Asian Universities have yet to fully embrace such advanced technological integration. This pattern aligns with contemporary studies on knowledge management systems in higher education by Devi Ramachandran et al. (2009) , who found that Asian universities predominantly implement codification-based KM systems over personalisation strategies, thereby limiting the development of dynamic knowledge communities. The dominance of asynchronous learning technologies (Bryce et al., 2022) and digital repositories over real-time collaborative platforms reflects what Sekli and de la Vega (2021) term *conservative digital adoption* – a preference for structured, controlled knowledge exchange rather than dynamic, emergent knowledge creation. This finding has implications for future technology integration strategies, suggesting the need for platforms that better support spontaneous knowledge interactions and interdisciplinary research collaboration, particularly as universities face increasing pressure to demonstrate innovation outcomes.

Stakeholder Dynamics and Organisational Learning

Multi-stakeholder KM ecosystems

The involvement of faculty/teachers (14 studies), administrators (12 studies), and students (10 studies) demonstrates the multi-stakeholder nature of academic KM systems. Our findings extend organisational learning literature by highlighting the complex stakeholder interdependencies required for effective KM in educational contexts (Rupcic, 2019). Further, a study by Dneprovskaya and Shevtsova (2023) supports these multi-stakeholder findings, demonstrating that successful KM implementation requires synchronised engagement across all university levels, with particular attention to knowledge flow mechanisms between administrative and academic functions. The limited involvement of industry stakeholders (2 studies) represents a significant gap in university-industry knowledge transfer. This finding aligns with Masete and Mafini's (2018) study on implementation barriers in South African universities, which identified external collaboration as the most underdeveloped aspect of institutional KM systems. The gap suggests untapped potential for expanding KM systems beyond institutional boundaries to include external knowledge networks critical for research commercialisation and practical application of academic knowledge.

Faculty as knowledge brokers

Faculty members' prominent role across multiple KM practices positions them as critical knowledge brokers within academic KM systems. This finding aligns with boundary spanning literature (Tushman & Scanlan, 1981) while extending recent research by Jameel and Ahmad (2020) on academic staff roles in Industry 4.0 contexts, where faculty serve as knowledge translators between theoretical and practical domains. The multi-faceted faculty role suggests the need for KM strategies that support faculty knowledge brokering capabilities rather than treating them as simple knowledge contributors or users. Work by Purwanto et al. (2020) demonstrates that faculty development programs incorporating explicit knowledge management training significantly improve institutional knowledge flow and innovation outcomes. The emphasis on faculty development applications in our review indicates recognition of faculty as both KM beneficiaries and enablers. This finding has implications for faculty development programs and performance evaluation systems, supporting calls by Bratianu et al. (2021) for greater recognition of knowledge management contributions in academic career advancement. The integration of KM competencies into faculty performance metrics represents an emerging area requiring policy attention across Asian universities.

Critical limitations and alternative interpretations

We acknowledge several limitations in our technology-mediated personalisation concept that warrant critical examination:

- *Cultural Specificity*: Our concept may reflect the particular characteristics, hierarchical structures, and collectivist values of Asian educational contexts. Western universities with more individualistic cultures might experience different technology-mediation patterns. Future research should test the transferability of this concept across different cultural contexts.
- *Technology Determinism Risk*: An alternative interpretation could view our findings as evidence of technology driving behavior rather than enabling it. We counter this by emphasising that

successful implementations in our review required deliberate design choices that aligned technology with pedagogical goals, rather than mere technology adoption.

- *Temporal Limitations*: Our review captures a specific technological moment. As AI and immersive technologies evolve, the nature of technology-mediated personalisation will likely transform. What we observe may be a transitional phase rather than a stable pattern.

Sharper distinctions from existing frameworks

To clarify how technology-mediated personalisation differs from established KM approaches, we present a comparative analysis in Table 2.

Table 2. A comparison of knowledge management approaches

Framework	Focus	Technology role	Human interaction	Knowledge type
Pure Codification (Hansen et al., 1999)	Efficiency through reuse	Central: stores and retrieves	Minimal	Explicit only
Pure Personalisation (Hansen et al., 1999)	Effectiveness through expertise	Peripheral-supports communication	Central: face-to-face	Primarily tacit
Communities of Practice (Wenger, 1998)	Shared domain learning	Optional enhancement	Essential-sustained engagement	Both, emerging from practice
Technology-Mediated Personalisation (this study)	Scalable tacit transfer	Enabling the platform creates new interaction modes	Transformed synchronous and asynchronous virtual engagement	Both, with technology enabling tacit-to-tacit transfer

The critical distinction lies in technology's role: rather than storing knowledge (codification) or merely connecting people (traditional personalisation), technology-mediated personalisation creates new forms of human interaction that preserve tacit knowledge's richness whilst overcoming traditional constraints of time, space, and scale.

Theoretical contribution synthesis

Our technology-mediated personalisation concept contributes to KM theory in three specific ways:

1. *Resolves the Codification-Personalisation Paradox*: Demonstrates how technology can support both strategies simultaneously rather than requiring trade-offs.
2. *Extends SECI Model Boundaries*: Shows how all four knowledge conversion modes can occur in technology-mediated spaces, not just the combination (explicit-to-explicit).
3. *Bridges Micro-Macro Gap*: Connects individual knowledge practices (micro) with organisational KM systems (macro) through technology platforms that capture and amplify individual interactions.

This framework offers practical guidance for universities designing KM systems that harness technology's efficiency without sacrificing the human elements essential to academic knowledge work.

Implications for Practice and Policy

Strategic KM implementation

Successful KM implementation in Asian universities requires integrated approaches. These approaches should address multiple stakeholder needs, technological capabilities, and institutional governance structures. The prominence of knowledge-sharing practices indicates the value of collaborative platforms and communities of practice. The importance of policy drivers suggests a need for formal KM strategies. These strategies should be aligned with institutional strategic plans. Institutions should consider developing comprehensive KM frameworks that balance top-down policy support with bottom-up knowledge communities, ensuring both formal structure and organic knowledge flow. Similarly, the multi-stakeholder nature of academic KM systems requires careful attention to different user needs and knowledge practices, suggesting the value of user-centred design approaches in KM system development.

Technology integration strategies

Technology plays a critical role in many KM practices. Universities should invest in integrated technological platforms. These platforms should support multiple KM processes, rather than isolated systems for specific functions. The emphasis on asynchronous learning and digital repositories indicates the value of systems supporting flexible access and knowledge reuse. However, institutions should also consider technologies enabling real-time collaboration and knowledge co-creation. The limited evidence of advanced technologies like artificial intelligence and machine learning in KM applications suggests opportunities for innovation in academic KM systems. In this scenario, universities should explore emerging technologies' potential to enhance knowledge discovery, automatic content curation, and personalised knowledge delivery. This must be done while maintaining the human interaction elements critical for academic knowledge work.

LIMITATIONS

This review offers valuable insights into the state of Knowledge Management (KM) in Asian higher education. However, we acknowledge its inherent limitations. First, as a scoping review, our methodology focused on mapping broad trends rather than providing an in-depth, critical analysis of individual studies or detailed case studies on the effectiveness of KM. This approach, while excellent for identifying patterns, limits the depth of insight into specific KM implementations. Second, our search strategy was confined to only two databases, Scopus and Google Scholar, and limited to peer-reviewed literature. This may have excluded relevant studies published in other databases, non-peer-reviewed sources, or crucial grey literature (e.g., policy documents, conference proceedings) that could offer further context on KM practices within specific countries or institutions. Finally, while our review encompassed studies from various Asian countries, it's important to note that not all countries within Asia were represented in the final 29 included studies. This geographical selectivity means the findings may not be universally generalisable across the entire diverse Asian higher education landscape.

FUTURE RESEARCH DIRECTIONS

Future research should focus on developing theoretical frameworks specifically designed for academic KM contexts, building on but extending beyond corporate-focused KM theories. The hybrid implementation approaches identified in our review suggest opportunities for theoretical frameworks that integrate formal governance structures with collaborative knowledge practices. Research examining the relationship between KM practices and specific educational outcomes (student learning, research productivity, innovation output) would contribute to evidence-based KM implementation. Longitudinal studies tracking KM system evolution and impact over time would provide valuable insights into sustainability factors and long-term effectiveness patterns. Research comparing Asian and Western approaches to academic KM could identify best practices transferable across cultural contexts while recognising context-specific adaptation requirements. This comparative approach would contribute to developing more universally applicable KM frameworks while respecting cultural diversity in implementation approaches. Future research should also examine emerging technology applications in academic KM. This includes artificial intelligence, machine learning, and advanced analytics capabilities. Studies examining how these technologies can enhance knowledge discovery, creation, and sharing processes would inform next-generation KM system development. Research focusing on KM's role in supporting university innovation and entrepreneurship ecosystems would address the gap in university-industry knowledge transfer identified in this review.

CONCLUSION

This scoping review, drawing from Scopus and Google Scholar, mapped the landscape of Knowledge Management (KM) in Asian higher education (2009-2025). By categorising the literature across disciplines, practices, aspects, and stakeholders, we have provided an initial framework for understanding the application of KM in academic settings. The review highlights a predominance of knowledge utilisation and sharing as core practices. Institutional policies, technology, and organisational performance emerge as key implementation drivers. The robust involvement of faculty, administrators, and students underscores a complex, multi-stakeholder ecosystem. Theoretically, our primary contribution is the conceptualisation of a 'technology-mediated personalisation' framework, which challenges the traditional codification-personalisation dichotomy and extends the SECI model by demonstrating how technology can serve as a direct conduit for tacit knowledge exchange. Practically, the review underscores the critical role of formal policies as KM enablers and identifies a need for more dynamic technology integration and enhanced university-industry collaboration. In essence, KM in Asian universities is a dynamic, evolving field. This review offers a foundational understanding for future research and informs strategic decisions for KM practitioners and policymakers across the region.

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APPENDIX

CODING LEGENDS

Knowledge management	Code	Field	Example
Disciplines	d1 d2 d3 d4 d5 d6 d7 d8	Institutional Management - 13 Student Learning - 6 Teacher/Faculty Development - 4 Creative Arts/Design - 2 Technology-1 Mental Health - 1 Libraries - 1 University-Industry Collaboration - 1	Gamification in personalised learning KM in University-Industry Collaboration Knowledge sharing between universities and industries
Practices	p1 p2 p3 p4	Knowledge Creation - 10 Knowledge Sharing - 12 Knowledge Storage - 5 Knowledge Utilisation -14	Generating new knowledge through innovative teaching or research in technology or arts) For later retrieval, knowledge is stored in digital repositories, institutional databases, or library systems. Existing knowledge is applied to improve teaching, research, administrative performance, or student well-being.
Aspects	a1 a2 a3 a4 a5 a6	Technology Use - 7 Policies and Strategies - 8 Innovation and Creativity - 5 Collaboration - 3 Well-being - 2 Organisational Performance - 9	Technology Use (e.g., use of LMS for knowledge sharing and collaboration in teaching and research) Institutional policies or government strategies mandate the use of KM for educational or research improvement. KM practices aim to enhance student or faculty well-being through improved services (e.g., mental health)
Stakeholders	s1 s2 s3 s4 s5	Students - 10 Faculty/Teachers - 14 Administrators - 12 Industry - 2 Library Users - 1	KM applied to enhance student learning experiences Teachers benefit from KM through professional development. Administrators apply KM for improved institutional performance. Knowledge sharing drives university-industry collaboration.

S. no.	Authors	Year	Field of application	Country	Practices	Aspects	Stakeholders
1.	Devi Ramachandran et al.	2009	Institutional Management	Malaysia	p2	a4	s2, s3
2.	Ab. Samad et al.	2014	Institutional Management	Malaysia	p2	a2	s2, s3
3.	Budiarta	2015	Institutional Management	Indonesia	p4	a6	s2
4.	Xu et al.	2017	Student Learning	China	p1	a1	s1
5.	Gonondo	2017	Student Learning	China	p2	a4	s1
6.	X. Wang et al.	2018	Teacher/Faculty Development	China	p1	a3	s2
7.	Hakiman et al.	2019	Institutional Management	Indonesia	p2, p3	a2	s3
8.	Graha et al.	2019	Institutional Management	Indonesia	p1, p4	a6	s2, s3
9.	Widodo and Gustari	2020	Teacher/Faculty Development	Indonesia	p1	a3, a6	s2
10.	Mahmood et al.	2020	Institutional Management	Malaysia	p2, p4	a2	s3
11.	Khatun and Dar	2021	Institutional Management	India	p2	a2	s2, s3
12.	Pudjiarti et al.	2022	University-Industry Collaboration	Indonesia	p2	a4	s3, s4
13.	N. T. Pham et al.	2021	Institutional Management	Vietnam	p1	a2	s2, s3
14.	Zhang et al.	2022	Mental health	China	p3, p4	a2, a5	s1
15.	Gee and Pangayan	2022	Art & design	Malaysia	p4	a1	s1
16.	Ahmed et al.	2022	Student Learning	Pakistan	p2	a3	s1, s2
17.	M Bryce et al.	2022	Student Learning	Malaysia	p4, p3	a1	s1
18.	Menkhoff et al.	2022	Technology	Singapore	p4	a1	s1, s4
19.	Galgotia and Lakshmi	2022	Institutional Management	India	p2	a2	s2, s3
20.	Amnouychokanant	2023	Creative Arts/Design	Thailand	p1	a3	s1
21.	N. T. Pham et al.	2023	Institutional Management	Vietnam	p1, p4	a6	s2
22.	Mamun et al.	2023	Library science	Bangladesh	p3, p4	a2	s5
23.	Murni et al.	2024	Institutional Management	Malaysia	p2	a5	s2
24.	Sahoo et al.	2024	Teacher/Faculty development	India	p4	a6	s2
25.	Ngo et al.	2024	Student learning	Vietnam	p1, p2, p4	a1, a6	s1
26.	Awan and Ather	2024	Teacher/Faculty development	Pakistan	p1, p2	a6	s2
27.	Kurniawan et al.	2024	Institutional Management	Indonesia	p3, p4	a1	s3
28.	Umar et al.	2025	Institutional Management	Malaysia	p4	a6	s3
29.	Rulinawaty et al.	2025	Student learning	Indonesia	p1, p4	a1, a3, a6	s1

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