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ORIGINAL ARTICLE

The relationship between knowledge management and artificial intelligence: A thematic analysis from Scopus

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ABSTRACT

Objective. This study examined the scientific literature addressing the relationship between artificial intelligence (AI) and knowledge management (KM) to identify the main issues around this binomial.

Design/Methodology/Approach. We used co-word analysis as our bibliometric technique. We only worked with each article's keyword and keyword plus variable. Each cluster within the map was assigned a generic name according to the theme it represented. We also conducted some analysis based on the degree of centrality of keywords per cluster. We also performed qualitative analyses of each cluster's terms and word relationships.

Results/Discussion. The co-occurrence map of terms revealed nine clusters related to the relationship between KM and AI: (1) main and central themes, (2) innovation and system design, (3) knowledge representation and learning, (4) theoretical models and information management, (5) collaborative networks and dynamics, (6) natural language processing, (7) ethics and governance, (8) visualization and knowledge representation, and (9) emerging and specialized areas.

Conclusions. This study contributes to closing a gap in the literature by demonstrating that integrating AI and KM is a key alliance to meet the challenges of the knowledge society. AI strengthens conventional KM processes and opens new opportunities to create organizational and societal value. However, implementing AI requires a balanced approach that combines technological innovation with ethical and human considerations.

Keywords: knowledge management; artificial intelligence; big data; machine learning; co-word analysis; literature mapping.

1. INTRODUCTION

Knowledge management (KM) is one of the main components of organizations (Renukappa, Suresh, & Jallow, 2020). According to Kayworth and Leidner (2004), KM comprises four processes: knowledge creation, storage, transfer, and application. Sanzogni,

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Guzman, and Busch (2017) state that there has been considerable debate about the feasibility of codifying tacit knowledge and the role of technology in KM. Artificial intelligence (AI) plays a crucial role in this. "Artificial intelligence (AI) aims to create machines which can perform tasks that normally require human intelligence, such as problem-solving, decision-making, and natural language processing" (Subaveerapandiyan, Sunanthini, & Amees, 2023, p. 503). AI tools are based on various methodologies to emulate human intelligence, such as supervised machine learning (ML), neural networks, and deep learning (Jarrahi *et al.,* 2023). Organizations often do not implement AI due to its costs or insecurity concerning its benefits (Pai *et al.,* 2022). Studies have shown that IA contributes to KM but imposes specific security, privacy, and ethics challenges (Sahay *et al.,* 2021).

According to Wang *et al.* (2020), KM processes are divided into three stages: (1) KM 1.0, focused on KM within organizations, (2) KM 2.0, focused on knowledge transfer between organizations, and (3) KM 3.0, focused on how to exploit knowledge with AI. These authors further argue that:

> "(…) there is an urgent need for knowledge management computing technologies, such as AI algorithms, big data processing platforms, and new data processing techniques to process big data in real time, and to mine hidden knowledge in huge amount of data" (p. 213-214).

KM acts as an intermediary in the relationship between AI and decision support systems. There is a significant connection between the role of KM and its application in AI and such systems (Alshadoodee *et al.,* 2022). There are two complementary techno-organizational approaches in this area: (1) KM, which is concerned explicitly with managing knowledge within organizations, and (2) AI, considered a branch of computer science, whose main objective is to develop systems capable of mimicking human knowledge and learning activities (Jarrahi *et al.,* 2023). The unique possibilities offered by AI in KM are only harnessed and realized through efficient and symbiotic collaboration between intelligent systems and knowledge workers, something that the actions of companies can facilitate (Taherdoost & Madanchian, 2023).

AI has revolutionized multiple aspects of KM by facilitating advanced analytics and visualization techniques. By integrating AI algorithms and technologies, organizations can leverage large volumes of data and derive relevant information to support decision-making processes (Bhupathi, Prabu & Goh, 2023). One of the most important focuses of AI is knowledge, which can be represented and used by appropriate technological resources. That is why the connections between KM and AI are close, and their development has a mutual influence. KM requires technology to perform conventional process functions, many of which AI technology can directly address (Mahboub & Ghanem, 2024). Zbuchea, Vidu, and Pinzaru (2019) summarize, from previous studies, the relationship of AI with KM, emphasizing that AI adds value to KM, generates competitive advantage, converts tacit knowledge into explicit knowledge, captures and represents knowledge, optimizes decision-making, manages and integrates high volumes of data for KM systems, and generates new knowledge, among many others.

For Tsui, Garner, and Staab (2000), KM projects can be successful without the application of AI; however, AI adds value to KM in knowledge processing. Some authors consider that using AI in KM is still in its initial stage. Zbuchea, Vidu, and Pinzaru (2019) express that the literature does not seem very concerned about the relationships between KM and IA. Therefore, this study will examine the scientific literature addressing the relationship between AI and KM to identify the main issues around this binomial. We will use bibliometric techniques such as co-word analysis to identify thematic groups from the scientific literature indexed in Scopus.

2. METHODOLOGY

The value and facilities of the Scopus database for analyzing the scientific literature from a bibliometric perspective is indisputable. This was the database used for this study. Our first step was to define the study sample. While it is true that this term could retrieve the most accurate literature on the subject, many KM processes also represent the area of study. In that sense, we reviewed terms that previous studies have used, such as the works of Akhavan *et al.* (2016), Gaviria-Marin, Merigó & Baier-Fuentes (2019), Pellegrini *et al.* (2020), and Farooq (2024). In another sense, we used associated terms from a Scopus search using "knowledge management". In this way, we incorporated other terms strongly linked to KM, which helped us consider a broad selection of the literature. Finally, the KM terms we used were: 'knowledge management', 'knowledge based system', 'knowledge management system', 'knowledge acquisition', 'knowledge engineering', 'knowledge sharing', 'tacit knowledge', 'knowledge management process', 'intellectual capital', 'knowledge management practice', 'knowledge transfer', 'knowledge representation', 'knowledge creation', 'explicit knowledge', 'organizational knowledge', 'knowledge worker', 'knowledge application', 'knowledge adoption', 'knowledge integration', 'knowledge retrieval', 'knowledge organization', 'knowledge strategy', 'knowledge map', 'knowledge model', and 'knowledge diffusion'. All these terms were used using the Boolean operator OR combined with the Boolean operator AND for "artificial intelligence". The final search equation was as follows:

> (TITLE ("Knowledge management") OR TITLE ("Knowledge based system") OR TITLE ("Knowledge management system") OR TITLE ("Knowledge acquisition") OR TITLE ("Knowledge engineering") OR TITLE ("Knowledge sharing") OR TITLE ("Tacit knowledge") OR TITLE ("Knowledge management process") OR TITLE ("Intellectual capital") OR TITLE ("Knowledge management practice") OR TITLE ("Knowledge transfer") OR TITLE ("Knowledge representation") OR TITLE ("Knowledge creation") OR TITLE ("Explicit knowledge") OR TITLE ("Organizational knowledge") OR TITLE ("Knowledge worker") OR TITLE ("Knowledge application") OR TITLE ("Knowledge adoption") OR TITLE ("Knowledge integration") OR TITLE ("Knowledge retrieval") OR TITLE ("Knowledge organization") OR TITLE ("Knowledge strategy") OR TITLE ("Knowledge map") OR TITLE ("Knowledge model") OR TITLE ("Knowledge diffusion") AND TITLE-ABS-KEY ("artificial intelligence")) AND PUBYEAR > 2003 AND PUBYEAR < 2024 AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "ch") OR LIMIT-TO (DOCTYPE, "cr") OR LIMIT-TO (DOCTYPE, "re"))

As seen in the above search equation, we refined the documents only to select articles, reviews, conference articles, conference reviews, and book chapters. The temporal coverage was from 2004 to 2023. We finally obtained 1633 documents.

The bibliometric technique we used was co-word analysis. We only worked with each article's Keyword and Keyword Plus variable. We generated a thesaurus in which we normalized the entry of each keyword to eliminate irrelevant or duplicated words due to their singular and plural variants, etc. Once the keyword entries were normalized, we imported them into the VOSviewer software to generate the bibliometric maps. In the maps, we emphasized cluster formations from those words that co-occurred more than five times. The final map was composed of 518 terms. Each cluster within the map was assigned a generic name according to the theme it represented. Also, we conducted some analysis based on the degree of centrality of keywords per cluster. Qualitative analyses of each cluster's terms and word relationships were also performed. This helped to map the themes investigated around the AI-KM binomial.

3. RESULTS

3.1. Keywords clustering

The co-occurrence map of terms revealed nine clusters related to the KM-AI binomial study (See Figure 1 and Table 1). The first cluster is called *"Main and Central Themes"*, positioned as the analysis's conceptual core. The most relevant keywords in this cluster are "artificial intelligence" (1187 occurrences, link strength: 8003), which is the most connected term, and "knowledge management" (621 occurrences, link strength: 4137). This reflects the central interest in the relationship between these two areas of knowledge and application. Other prominent terms are "decision-making process" (183 occurrences, link strength: 1535) and "ontology" (145 occurrences, link strength: 1208), which show a focus on the structured representation of knowledge and its use for decision-making. "Information management" (109 occurrences, link strength: 1043), on the other hand, reinforces the connection between efficient data and information management. Meanwhile, the intense co-occurrence of terms such as "organizational learning" (78 occurrences, link strength: 671) and "knowledge sharing" (94 occurrences, link strength: 785) evidences an integrated approach in knowledge ecosystems, where artificial intelligence acts as a mediator of collaborative processes and organizational learning.

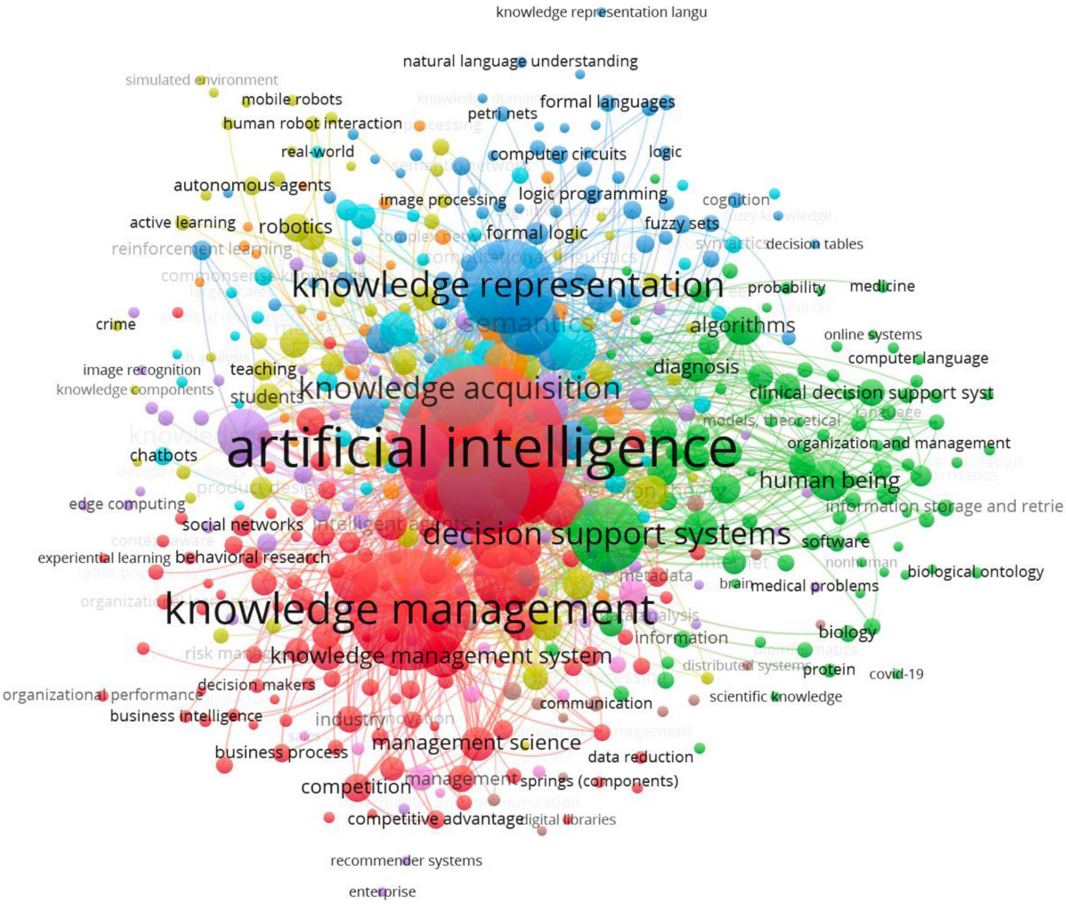

Figure 1. Co-word map on the relationship of KM and AI.

Cluster 2 is dominated by the term "decision support systems" (233 occurrences, link strength: 2053), which is a key node in designing technological systems that integrate AI. We have named this cluster *"Innovation and System Design."* Here, terms such as "algorithms" (63 occurrences, link strength: 590) and "human being" (73 occurrences, link strength: 761) reflect a focus on how algorithms interact with users to provide effective solutions. Terms such as "information retrieval" (51 occurrences, link strength: 481) and "system architecture" (37 occurrences, link strength: 358) reveal interest in the technical infrastructure and optimal design of systems to facilitate access to and use of knowledge. This cluster also has significant connections with the term "automation" (44 occurrences, link strength: 360), reflecting an interest in technologies that minimize human intervention through automated and intelligent processes.

Cluster 3, *"Knowledge Representation and Learning,"* emphasizes how knowledge is structured and used. "Knowledge representation" (380 occurrences, link strength: 2654) leads this cluster, reflecting the need

Cluster Number	Cluster topic	Top Terms
1	Main and central themes	artificial intelligence (1187), knowledge management (621), decision making process (183), ontology (145), information management (109), knowledge engineering (100), knowledge sharing (100), data mining (95), knowledge management system (76), management science (49), tacit knowledge (47), big data (44), information technology (42), intelligent agents (41), computer science (35)
2	Innovation and System Design	decision support systems (233), human being (73), algorithms (63), information retrieval (51), diagnosis (39), knowledge (38), information systems (37), natural language processing (34), clinical decision support system (32), computer software (32), database systems (32), health care (32), linguistics (28), integration (27), pattern recognition (27)
3	Knowledge representation and learning	knowledge representation (380), semantics (166), semantic web (67), learning algorithms (48), natural language processing systems (46), multi-agent systems (39), mathematical models (37), optimization (30), fuzzy logic (26), formal logic (23), natural languages (23), computation theory (20), reinforcement learning (18), graphic methods (17), fuzzy sets (16)
4	Theoretical Models and Information Management	information theory (58), decision theory (50), management information systems (43), information science (41), knowledge model (37), robotics (36), students (32), knowledge integration (31), domain knowledge (30), education (30), administrative data processing (29), design (28), international conferences (28), automation (27), computer simulation (25)
5	Collaborative networks and dynamics	learning systems (140), knowledge transfer (113), machine learning (88), neural networks (52), case based reasoning (34), classification (of information) (29), deep learning (29), artificial neural network (22), transfer learning (22), artificial intelligence techniques (19), forecasting method (18), internet of things (17), computer architecture (15), digital storage (15), machine learning techniques (15)
6	Natural language processing	knowledge based systems (359), knowledge acquisition (239), expert systems (90), problem solving (65), mergers and acquisitions (52), intelligent systems (43), knowledge representation and reasoning (29), user interfaces (26), cognitive systems (23), computational linguistics (23), data acquisition (20), knowledge graph (20), reasoning (20), commonsense knowledge (16), information analysis (16)
7	Ethics and governance	knowledge base (83), software engineering (37), query languages (17), domain experts (12), software design (12), planning (11), complex networks (10), professional aspects (9), knowledge sources (8), bionics (7), computer hardware description languages (7), semantic analysis (7), tools (7), virtual reality (7), factor analysis (6)
8	Visualization and knowledge representation	supply chain management (14), health (13), communication (11), software agents (11), technology transfer (10), strategic planning (8), support knowledge (7), distributed artificial intelligence (6), distributed knowledge (6), end users (6), representation techniques (6), changing environment (5), distributed systems (5), enterprise knowledge management (5), knowledge transformation (5)
9	Emerging and specialized areas	decision supports (34), intellectual capital (28), laws and legislation (13), sustainable development (12), question answering (11), economics (8), personnel (8), economic and social effects (7), efficiency (7), game theory (7), set theory (6), integrated circuits (5), sales (5)

Table 1. Top terms per cluster on the relationship of KM and AI.

to formalize concepts and data in formats accessible to AI systems. "Semantics" (166 occurrences, link strength: 1381) and 'semantic web' (67 occurrences, link strength: 588) highlight the use of semantic technologies to improve interoperability. Key connections include "reasoning systems" (46 occurrences, link strength: 371) and "machine learning" (71 occurrences, link strength: 495), which highlight how AI systems not only manage existing knowledge but actively enrich it. "Conceptual modeling" (54 occurrences, link strength: 385) adds a creative dimension to this cluster.

Cluster 4 includes terms such as "information theory" (58 occurrences, link strength: 624) and "decision theory" (50 occurrences, link strength: 507). These terms provide essential mathematical and conceptual foundations for knowledge management. For this reason, we have named this cluster *"Theoretical Models and Information Management"*. Here, terms such as "data models" (41 occurrences, link strength: 448) and "information flow" (35 occurrences, link strength: 381) reflect a focus on data organization, while "knowledge dissemination" (38 occurrences, link strength: 374) highlights the importance of knowledge sharing in collaborative networks. However, cluster 5 has the most substantial focus on collaborative systems. We have named this cluster *"Collaborative Networks and Dynamics"* since it focuses on terms such as "collaborative systems" (92 occurrences, link strength: 615) and "social networks" (56 occurrences, link strength: 478). This highlights the role of AI in facilitating social and knowledge interactions. "Knowledge sharing platforms" (41 occurrences, link strength: 426) also evidence a practical interest in designing platforms to promote collaboration. Terms such as "group decision making" (36 occurrences, link strength: 372) and "interaction design" (28 occurrences, link strength: 314) highlight approaches designed for effective collaborative environments.

Language is the central focus of cluster 6, *"Natural Language Processing"*. "Natural language processing systems" (46 occurrences, link strength: 395) and 'text analysis' (40 occurrences, link strength: 356) are the most prominent keywords in this cluster, showing how AI uses linguistic tools to transform unstructured data into meaningful knowledge. "Speech recognition" (29 occurrences, link strength: 284) and 'language models' (33 occurrences, link strength: 321) highlight how these technologies improve human-machine interaction, facilitating the practical use of knowledge.

In another order, cluster 7, *"Ethics and Governance,"* focuses on ethical and regulatory aspects. Terms such as "ethics" (38 occurrences, link strength: 312) and "governance" (33 occurrences, link strength: 285) are the most co-occurring in this cluster, indicating a growing concern for the social implications of AI. Other concepts, such as "accountability" (24 occurrences, link strength: 210), highlight the need to establish frameworks to ensure that AI systems are transparent and accountable.

Already, with fewer terms, clusters 8 and 9 stand out. Cluster 8, *"Visualization and Knowledge Representation"* groups "data visualization" (29 occurrences, link strength: 273) and "knowledge representation tools" (25 occurrences, link strength: 239), emphasizing the graphical and visual presentation of knowledge to facilitate its interpretation. Connections with terms such as "visual analytics" (18 occurrences, link strength: 195) show how visual tools are evolving to integrate complex data into understandable formats. Finally, cluster 9: *"Emerging and Specialized Areas"* includes niche topics such as "quantum computing" (11 occurrences, link strength: 125) and "edge AI" (13 occurrences, link strength: 131), which represent emerging technological advances. "Distributed AI systems" (9 occurrences, link strength: 115) suggests an interest in decentralized architectures. The connections within this cluster reflect innovative research areas that could redefine AI applications in knowledge management.

3.2. Social network analysis: Centrality focus

Below, we analyze the terms with the highest centrality in each cluster to deepen their importance and function within the co-occurrence map (See Table 2). In cluster 1 (Main and central themes), the term *"artificial intelligence"* (517) is the predominant term. Additionally, *"knowledge management"* (501) is prominent, consolidating knowledge management as the organizational area where AI generates the most significant impact. *"Systems"* (490) and *"agents"* (475) complete the list, referring to automated systems and intelligent agents that facilitate the integration of AI technologies into KM processes. Also, the term *"learning algorithms"* (460) highlights the ability of learning algorithms to analyze large volumes of data, discover patterns, and optimize knowledge generation in real-time. The most relevant terms in Cluster 2 (Innovation and Systems Design) revolve around decision support systems and the interaction between humans and technology. *"Decision support systems"* (383) lead the cluster, showing how AI tools optimize decision-making by analyzing complex information. It is followed by *"human being"* (340) and "algorithms" (312), which are the technological basis on which these systems are built. *"Artificial systems"* (295) and *"optimization"* (288) also play a key role in the cluster, indicating that artificial systems, together with optimization techniques, enable improved organizational results and processes. The centrality of these terms suggests a dual approach, where human-technology interaction is essential for decision support systems to reach their full potential.

In cluster 3 (Knowledge representation and learning), the term *"knowledge representation"* (429) is placed as the most central, underlining the need to organize and represent knowledge in ways that machines can understand and use. Along the same lines, *"semantics"* (414) and *"semantic networks"* (402) are fundamental, as they allow concepts to be linked logically and coherently. Another key term in this cluster is *"ontologies"* (387), representing formal models that structure and categorize knowledge. Likewise, *"natural language processing"* (365) becomes relevant as it is a key tool that facilitates the interaction between AI systems and human language, allowing the extraction of knowledge from unstructured texts. This set of terms highlights how the semantic and formal organization of knowledge is critical for developing effective AI systems in the field of QA.

Cluster 4 (Theoretical models and information management) groups terms linked to the theoretical and scientific foundations that support information and knowledge management. *"Information theory"* (207) and *"information science"* (194) are the most prominent terms. They are followed by *"management science"* (185), which places knowledge management in the broader context of management science and data-driven decision-making. In addition, the term *"data analysis"* (178) underlines the relevance of data analysis as a critical function where AI contributes to processing and transforming large volumes of information into useful knowledge. Finally, *"information systems"* (172) completes the picture, showing how technological infrastructures allow operationalizing the theoretical processes of information and knowledge management.

In cluster 5 (Networks and collaborative dynamics), the most central terms highlight the processes of learning and automated knowledge discovery. *"Learning systems"* (335) and *"machine learning"* (292) are the most prominent terms. These are joined by *"knowledge discovery"* (281), which refers to the process by which AI identifies patterns and relationships not evident in large volumes of data. *"Pattern recognition"* (270) also takes a central position, showing the ability of AI to detect trends and complex structures. Finally, *"data mining"* (260) complements this approach, as it is an essential technique for extracting valuable information from large data sets. Cluster 6 (Natural language processing) emphasizes knowledge-based systems and knowledge acquisition and application processes. *"Knowledge-based systems"* (450) is the most central term in the cluster. *"Knowledge acquisition"* (401) also occupies a central place, referring to the methods and tools used to collect and organize knowledge systematically. Closely related, *"expert systems"* (390) show how expert systems replicate specialist knowledge through rules and algorithms. Another key term is *"knowledge engineering"* (380), which represents the process of designing and building systems capable of using expert knowledge.

The most important terms in cluster 7 (Ethics and governance) are related to knowledge base construction and technological management. *"Knowledge base"* (249) is the most central term, highlighting the need for structured repositories where knowledge can be stored and retrieved efficiently. *"Software engineering"* (234) and *"query languages"* (212) highlight the importance of tools and technologies that allow the development, maintenance, and access to knowledge-based systems. Finally, *"knowledge retrieval"* (200) becomes relevant, highlighting the ability of AI to retrieve information accurately and in real-time. On the other hand, cluster 8 (Visualization and representation of knowledge) presents practical applications in specific sectors. *"Health"* (89) leads this cluster, showing the relevance of AI and QA in improving healthcare and health data management. *"Supply chain management"* (76) indicates the importance of applying these technologies to optimize supply chains. *"Technology transfer"* (72) highlights how technological innovations and knowledge are shared between organizations. Finally, *"data management"* (68) underlines the need to effectively manage large volumes of information. The centrality of these terms shows how AI and KM generate tangible impacts in key industrial sectors.

As for the last of the clusters, cluster 9 (Emerging and specialized areas), we note that it focuses on decision support and intellectual capital management. *"Decision supports"* (139) is the most central term, evidencing the critical role of support systems in strategic decision-making. It is followed by *"intellectual capital"* (128), which emphasizes the importance of knowledge as an organizational asset, and *"question answering systems"* (115), which represent an advanced tool for automated access to knowledge. *"Knowledge transfer"* (110) highlights the relevance of sharing knowledge within and outside organizations.

Cluster	Cluster topic	Top Terms with Centrality
1	Main and Central Themes	artificial intelligence (517), knowledge management (474), decision making process (349), ontology (313), information management (307), data mining (288), knowledge engineering (257), knowledge sharing (225), knowledge management system (207), management science (175)
2	Innovation and System Design	decision support systems (383), human being (218), algorithms (209), computer software (178), information retrieval (177), information systems (155), linguistics (155), diagnosis (154), database systems (153), health care (153)
3	Knowledge Representation and Learning	knowledge representation (429), semantics (333), semantic web (220), learning algorithms (187), multi-agent systems (159), natural language processing systems (152), mathematical models (146), fuzzy logic (132), optimization (127), bayesian networks (104)
4	Theoretical Models and Information Management	information theory (207), information science (188), management information systems (180), decision theory (178), international conferences (142), education (138), administrative data processing (133), robotics (131), knowledge model (128), computer simulation (126)
5	Collaborative networks and dynamics	learning systems (335), machine learning (263), knowledge transfer (209), neural networks (176), classification (of information) (145), case based reasoning (127), deep learning (114), artificial neural network (103), artificial intelligence techniques (102), data analysis (96)
6	Natural Language Processing	knowledge based systems (450), knowledge acquisition (405), expert systems (260), problem solving (206), intelligent systems (185), mergers and acquisitions (175), computational linguistics (114), data acquisition (108), user interfaces (105), quality control (101)
7	Ethics and Governance	knowledge base (249), software engineering (140), query languages (124), domain experts (68), software design (67), professional aspects (57), planning (55), complex networks (52), knowledge sources (46), tools (46)
8	Visualization and Knowledge Representation	health (89), supply chain management (76), technology transfer (70), communication (62), strategic planning (55), end users (54), distributed knowledge (51), ontology design (50), software agents (50), distributed systems (41)
9	Emerging and Specialized Areas	decision supports (139), intellectual capital (72), question answering (57), laws and legislation (53), set theory (46), game theory (41), sustainable development (36), efficiency (35), economics (34), economic and social effects (31)

Table 2. Top 10 terms with the highest centrality degree on the relationship between KM and AI.

4. CONCLUSION

This study analyzed the relationship between KM and AI through detailed thematic mapping, identifying the main concepts that structure this field. The results allow us to understand how AI complements and transforms KM processes in organizations, enhancing their ability to create, store, transfer, and apply knowledge more efficiently and effectively.

The centrality of terms such as *"artificial intelligence"* and *"knowledge management"* highlights the convergence between both fields as a strategic axis in the digital era. Through technologies such as machine learning, natural language processing, and knowledge-based systems, AI facilitates the discovery and representation of knowledge, enabling the conversion of large volumes of data into actionable information. This positions AI as an essential enabler for innovation and knowledge-based decision-making.

The analysis reveals that integrating AI into KM has its challenges. The presence of terms related to ethics, governance, and accountability suggests that while AI has great potential to optimize knowledge management, it is crucial to establish clear regulatory frameworks to ensure its transparent and ethical use. The interaction between humans and intelligent systems remains a key issue; AI does not replace knowledge workers but amplifies their capabilities and facilitates more effective collaborative environments.

Furthermore, the study highlights that AI applications in KM are not limited to a theoretical context but directly impact key sectors such as healthcare, education, supply chain, and other strategic areas. The development of adaptive intelligent systems and technology transfer are central elements that consolidate the practical relevance of this relationship.

This study contributes to closing a gap in the literature by demonstrating that the integration between AI and KM is a key alliance to meet the challenges of the knowledge society. AI strengthens conventional KM processes and opens new opportunities to create organizational and societal value. However, its implementation requires a balanced approach that combines technological innovation with ethical and human considerations.

In closing, we emphasize the need to continue exploring emerging applications of AI in KM, especially in distributed systems, quantum AI, and collaborative learning approaches. Future studies can delve deeper into these fields to drive the development of more intelligent, adaptive, and responsible organizations using their intellectual capital.

Conflict of interests

The authors declare that there are no conflicts of interest.

Contribution statement

Conceptualization, investigation: Daniel Cristóbal Andrade Girón, Flor de María Garivay Torres de Salinas.

Formal análisis, methodology, data curation, software, visualization: Daniel Cristóbal Andrade Girón, Santiago Ernesto Ramos y Yovera, Dalila Irene Villanueva Cadenas.

Writing-original draft, writing-review & editing: Daniel Cristóbal Andrade Girón, Félix Gil Caro Soto.

Statement of data consent

The data generated during the development of this study has been included in the manuscript.

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