Artificial Intelligence and Its Integration into Knowledge Management: A Bibliometric Analysis

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Abstract
Integrating Artificial Intelligence into Knowledge Management represents a transformative advancement in managing organizational knowledge. This paper examines the evolving relationship between Artificial Intelligence and Knowledge Management by analyzing trends in scholarly publications and their impact. The state of the art is assessed through a comprehensive review of existing literature, highlighting advancements in Artificial Intelligence technologies and their applications in Knowledge Management. The research employs a bibliometric analysis using data from the Scopus database to explore publication trends, citation metrics, and collaborative networks. The study identifies key themes, influential authors, and significant research clusters within this field. Key findings reveal a notable increase in research output and citation rates over recent years, indicating growing interest and impact. The analysis also highlights dominant research themes such as machine learning, deep learning, and knowledge transfer. The study underscores the challenges in managing both explicit and tacit knowledge and explores emerging opportunities and ethical considerations in the use of Artificial Intelligence in Knowledge Management systems. This research contributes to the field by providing a detailed overview of current trends, influential contributors, and thematic developments, offering valuable insights for future investigations. The findings emphasize the importance of continued exploration and development of Artificial Intelligence tools to enhance Knowledge Management practices and address emerging challenges.

Keywords
Artificial Intelligence; Knowledge Management; Bibliometric Analysis; Data Integration; Research Trends.

Introduction

The rapid advancement of Artificial Intelligence (AI) has significantly transformed various aspects of organizational management, particularly in the realm of Knowledge Management (KM). KM, traditionally focused on the systematic processes of capturing, organizing, and disseminating knowledge within organizations, is increasingly being augmented by AI technologies. These technologies, which include machine learning, natural language processing (NLP), and data mining, offer new avenues for automating knowledge-intensive tasks, enhancing data analytics, and improving decision-making processes (Taherdoost & Madanchian, 2023). Artificial Intelligence (AI) is increasingly recognized for its transformative potential in various sectors, including education, where it is heralding a new era of possibilities (Rahman et al., 2024; Farrokhnia et al., 2023; Górriz et al., 2020).

The integration of AI into KM practices has the potential to revolutionize how organizations manage both explicit and tacit knowledge. Explicit knowledge, which can be easily codified and shared, is well-suited to traditional KM systems. However, tacit knowledge, often deeply embedded in personal experience and difficult to articulate, presents a significant challenge for these systems (Harfouche et al., 2023). AI's capability to process and analyze large volumes of unstructured data offers promising solutions for bridging this gap, making tacit knowledge more accessible and actionable within organizational contexts (Papagiannidis et al., 2023).

Despite the progress in integrating AI with KM, the literature reveals several gaps that warrant further exploration. One significant gap is the lack of comprehensive models that fully integrate AI across all facets of KM, particularly in managing tacit knowledge. While substantial research has been conducted on the application of AI to specific KM tasks, there is a dearth of studies that examine the holistic impact of AI on KM processes across different organizational contexts (Minkkinen et al., 2023). Moreover, as AI continues to evolve, the ethical implications of its integration into KM systems remain an underexplored area, requiring a balanced approach to maximize benefits while minimizing potential risks (Harfouche et al., 2023).

This paper aims to address these gaps by conducting a bibliometric analysis of existing research on the integration of AI into KM. By analyzing trends, patterns, and key contributions in this field, the study seeks to provide a comprehensive overview of the current state of AI-KM integration, identify critical research gaps, and propose directions for future research. This approach not only contributes to the academic understanding of AI's role in KM but also offers practical insights for organizations looking to enhance their KM systems through AI technologies.

Research question

RQ: How have publication trends, key contributors, predominant research themes, practical applications, and ethical considerations shaped the integration of Artificial Intelligence (AI) into Knowledge Management (KM), with a focus on addressing explicit and tacit knowledge, and what challenges and opportunities does the current literature identify for future research?

Literature review

In recent years, the integration of AI into KM has emerged as a critical area of research, with AI enhancing the capacity of organizations to manage knowledge more effectively. To ground this study, it is essential to establish clear definitions of both AI and KM, based on authoritative sources in the field and to outline the processes involved in integrating AI into KM practices. Integrating AI into KM represents a significant advancement in how organizations manage knowledge. While AI offers substantial benefits in automating and enhancing KM processes, ongoing research is needed to address existing gaps, particularly in the areas of tacit knowledge management and ethical considerations. As organizations continue to adopt AI-driven KM systems, they will need

to balance the technological capabilities of AI with the human aspects of knowledge management to fully realize these technologies' potential.

AI and KM are increasingly intertwined, with AI offering powerful tools for enhancing KM processes across various domains. KM traditionally focuses on capturing, storing, and disseminating knowledge within organizations to improve decision-making, innovation, and efficiency. With the integration of AI, these processes are not only automated but also significantly enhanced, enabling more sophisticated knowledge discovery, personalization, and decision support.

Definitions and key concepts

Knowledge Management has been widely recognized as a systematic approach to capturing, distributing, and using knowledge within organizations to drive learning, innovation, and decision-making (Dalkir, 2023). This approach involves both explicit knowledge, which can be codified and easily communicated, and tacit knowledge, which is more difficult to express and often resides in the experiences and intuitions of individuals (Harfouche et al., 2023). Both explicit and tacit knowledge must be effectively managed to ensure that organizations can respond dynamically to changes in the environment and maintain a competitive advantage.

Bolisani and Bratianu (2018) define knowledge management as the managerial process of creating, purchasing, sharing, transferring, translating, and using knowledge within an organization. In the works of Bratianu and Bejinaru (2019, 2020), knowledge is examined through dynamic and transformational perspectives, emphasizing its nonlinear and multidimensional nature. Knowledge is defined as composed of rational, emotional, and spiritual dimensions, which are fluid and can transform into one another through organizational processes. This understanding aligns with Bolisani and Bratianu's concept of KM (Bolisani & Bratianu, 2018), highlighting the importance of translating different forms of knowledge (rational, emotional, spiritual) into actionable insights for decision-making and innovation. Knowledge is treated as an intangible resource that, like energy, can be transformed and leveraged to enhance organizational learning and adaptability. This approach introduces the idea of knowledge fields, drawing from the principles of thermodynamics to explain how knowledge behaves, moves, and influences organizational practices, making it an essential asset for achieving competitive advantage.

A working definition synthesized from this literature would define KM as the systematic and dynamic management of an organization's knowledge assets, involving the processes of acquiring, organizing, sharing, and transforming both tacit, explicit, and implicit knowledge to achieve strategic objectives and foster innovation.

Artificial Intelligence, as defined in the literature, refers to the development of systems capable of performing tasks that typically require human intelligence. These tasks include learning, reasoning, problem-solving, and understanding natural language (Taherdoost & Madanchian, 2023). AI systems rely on algorithms, particularly in fields like machine learning and natural language processing (NLP), to analyze data, identify patterns, and make predictions or decisions (Minkkinen et al., 2023). Thus, AI can be understood as a branch of computer science that focuses on creating systems capable of

human-like tasks, including learning from data, reasoning through algorithms, and improving over time through self-correction mechanisms.

The integration of AI into KM is underpinned by several theoretical frameworks, including the firm's knowledge-based view (KBV), which posits that knowledge is a critical organizational resource that can provide a competitive advantage. AI tools enhance this resource by enabling more efficient tacit and explicit knowledge management. Moreover, cognitive computing and machine learning theories have become central to understanding how AI can improve KM practices. These theories explain how AI systems can simulate human thought processes to extract insights from large datasets, thus enabling organizations to leverage vast amounts of information for strategic decision-making.

Integration of AI into KM

The integration of AI into KM systems represents a transformative development, allowing organizations to automate routine tasks, provide advanced analytics, and enhance decision-making. AI is particularly valuable in its ability to manage both structured and unstructured data, enabling more efficient knowledge retrieval and discovery processes (Harfouche et al., 2023). Moreover, AI technologies facilitate the integration of tacit knowledge, making it more accessible and actionable through advanced tools such as machine learning algorithms and NLP models (Papagiannidis et al., 2023).

Incorporating insights from the literature, the integration of AI into KM can be defined as the use of AI technologies to enhance the efficiency and effectiveness of KM processes, including automating knowledge-intensive tasks, improving data analytics, and creating adaptive knowledge systems capable of continuous improvement.

Recent studies have focused on the application of AI in KM, particularly in automating knowledge discovery, enhancing knowledge sharing, and improving decision-making processes. A bibliometric analysis conducted by Majumder and Dey (2022) highlights the growing research interest in AI-driven KM, showing a significant increase in publications that explore AI applications in KM from 2017 to 2022. These studies emphasize the role of AI in transforming KM practices by enabling more effective knowledge retrieval, personalized knowledge delivery, and the automation of knowledge-intensive tasks. Furthermore, research has shown that AI can help bridge the gap between structured and unstructured data, a longstanding challenge in KM. AI technologies such as NLP allow organizations to process and analyze unstructured data, such as emails and social media content, thereby converting it into actionable knowledge.

Comparative analysis of definitions

To further clarify the nuances in these concepts, a comparison of definitions provided by various authors reveals key similarities and differences, as presented in Table 1.

Table 1. Comparative analysis of definitions (Author's research results/contribution)

Concept	Author	Definition	Similarities	Differences
Knowledge Management	Dalkir (2023)	Systematic process of capturing, distributing, and effectively using knowledge.	Emphasizes systematic processes and organizational objectives.	Dalkir focuses on distribution and utilization, while Bratianu highlights knowledge transformation's nonlinear and dynamic nature.
	Harfouche et al. (2023)	Processes and strategies to manage both explicit and tacit knowledge within organizations.	All definitions recognize the importance of managing both explicit and tacit knowledge.	Harfouche includes strategies for updating knowledge, while Bratianu stresses the flow and transformation of knowledge types.
	Bratianu (2022)	Managerial process of creating, purchasing, sharing, transferring, translating, and using knowledge within an organization		Bratianu uniquely focuses on the nonlinear dynamics and the transformation between different types of knowledge.
Artificial Intelligence	Taherdoost & Madanchian (2023)	Capability of machines to mimic human intelligence through algorithms and models.	Both emphasize the mimicry of human intelligence and the use of algorithms.	Taherdoost & Madanchian focus on computational models, while Minkkinen et al. highlight specific applications like decision-making.
	Minkkinen et al. (2023)	Technologies enabling machines to perform tasks requiring human intelligence, such as decision-making and NLP.		
AI in KM Integration	Harfouche et al. (2023)	Enhances KM by automating tasks, providing analytics, and integrating tacit and explicit knowledge.	Both view AI as enhancing KM processes and facilitating decision-making.	Harfouche focuses on seamless integration within workflows, while Papagiannidis highlights predictive capabilities.

Concept	Author	Definition	Similarities	Differences
	Papagiannidis et al. (2023)	Supports knowledge discovery, personalization, and decision-making augmentation.		

Identified gaps and future directions

The synthesis of these definitions offers a nuanced understanding of how AI transforms KM practices. The working definitions provided integrate diverse perspectives from the literature, ensuring they capture the complexities and opportunities presented by AI's integration into KM. As AI continues to develop, its influence on KM systems is expected to grow, highlighting the need for ongoing research in this area.

However, despite the advancements in AI-KM integration, several gaps remain. A critical issue is the absence of comprehensive models that fully integrate AI across all aspects of KM, particularly in managing tacit knowledge, which is inherently challenging to codify and share. While existing research has made significant strides in applying AI to specific KM tasks, there is a notable deficiency in studies addressing the holistic impact of AI on KM processes across various organizational contexts.

To address these gaps, future research should prioritize the development of AI tools designed to better manage tacit knowledge alongside a thorough exploration of the ethical implications of AI within KM. As AI technologies continue to evolve, their impact on KM practices will likely deepen, necessitating the continuous development of new models and approaches to exploit AI's potential in this field fully.

Methodology

This study conducts a bibliometric analysis to explore the integration of Artificial Intelligence (AI) into Knowledge Management (KM) using data from the Scopus database. Initially, the search query identified 23,778 documents. This number was refined through a stringent filtering process to 8,219 papers, with 3,892 being open access.

The data collection involved querying Scopus with a comprehensive string of keywords such as "Knowledge Management," "Artificial Intelligence," "Machine Learning," "Deep Learning," and "Neural Networks," focusing on titles, abstracts, and keywords. The search was confined to publications from 1990 to 2024 to capture the development of AI technologies and their applications in KM. To enhance the relevance of the data, several filters were applied. Only peer-reviewed journal articles in English were included, ensuring high-quality and consistent content. The dataset was further refined using specific keywords related to AI-KM integration, and only journal articles were considered, excluding conference papers and book chapters. This filtering narrowed the dataset to 8,219 documents, ensuring a focus on pertinent studies.

Using Biblioshiny within the R-based Bibliometrix package, the bibliometric analysis identified key articles and influential authors through citation analysis, mapped collaboration networks through co-authorship analysis, and revealed dominant themes and emerging trends through keyword co-occurrence analysis. This approach provides a comprehensive understanding of AI's integration into KM, offering valuable insights into current research dynamics and future research directions.

Results and discussion

This study analyzed a dataset of 8,219 documents sourced from Scopus. It was exported as a CSV file and processed using *RStudio* through the *Bibliometrix* package and its complementary *Biblioshiny* interface. This analytical approach enabled us to perform a comprehensive bibliometric analysis, offering insights into various aspects of the research landscape, including document growth trends, citation metrics, authorship patterns, and collaborative networks. Integrating *Bibliometrix* facilitated an in-depth examination of key metrics, such as co-authorship statistics, keyword analysis, and international collaboration rates, thereby highlighting the scholarly contributions' evolving nature and global impact within the selected research domain.

Results

The bibliometric data from this study (Table 2), spanning 1990 to 2024, reveals significant trends and dynamics in a specific research area.

Table 2. Bibliometrix main information (Author's research results/contribution)

Description	Results
Timespan	1990:2024
Sources (Journals, Books, etc)	2231
Single-authored docs	442
Keywords Plus (ID)	41727
International co-authorships %	28.46
Documents	8219
Document Average Age	4.95
Co-Authors per Doc	4.65
Average citations per doc	22.09
Authors of single-authored docs	417
Authors	21854
Author's Keywords (DE)	20490
Article no.	8219
Annual Growth Rate %	16.58

With an annual growth rate of 16.58%, the literature exhibits rapid expansion, which is often seen in fields experiencing technological or scientific breakthroughs. The dataset encompasses 8,219 documents, predominantly journal articles, signifying a substantial scholarly output. An average of 22.09 citations per document highlights this research's moderate to high impact, reflecting the scholarly community's recognition of its relevance. Additionally, the average document age of 4.95 years suggests that much of the research is recent, pointing to the timeliness and applicability of these studies in addressing contemporary scientific challenges.

Collaboration is a key feature of the dataset, with 21,854 contributing authors and an average of 4.65 co-authors per document. This indicates a strong trend toward collaborative research, likely driven by the need for interdisciplinary expertise. The 28.46% rate of international co-authorship further underscores the global nature of the study, with scholars from various countries working together on complex problems. The thematic richness is evident in the high number of author keywords (20,490) and Keywords Plus (41,727), reflecting a diverse range of research topics and subfields. This diversity, coupled with the collaborative and high-impact nature of the research, paints a picture of a dynamic, rapidly growing academic field with far-reaching international relevance.

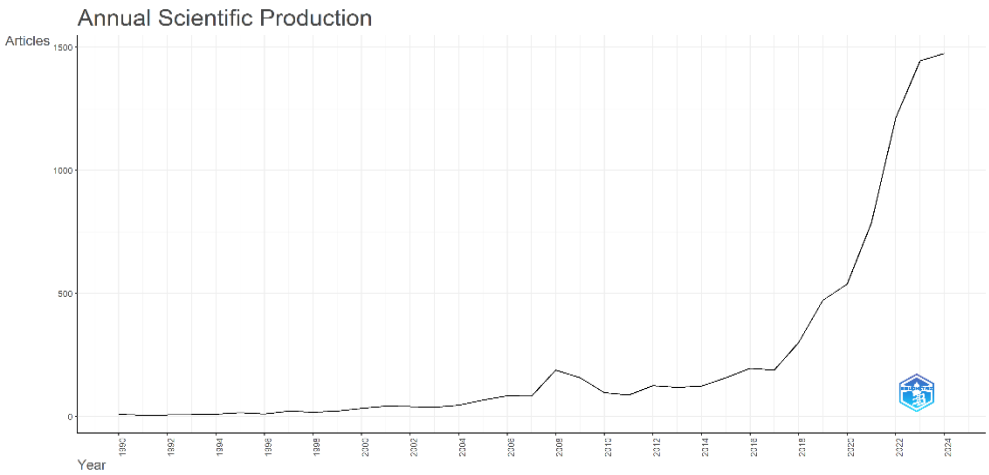

Figure 1. The annual scientific production
(Author's research results/contribution)

The annual scientific production (Figure 1) displayed a clear upward trajectory from 1990 to 2024, reflecting significant growth in research output over the decades. Starting with modest numbers in the early 1990s, such as 8 articles in 1990 and 5 in 1991, the production began to increase steadily in the 2000s, with notable jumps like 84 articles in 2006 and 188 in 2008. This trend accelerated dramatically in recent years, reaching a peak of 1,475 articles in 2024. The largest surges occurred after 2018, with output doubling from 300 articles in 2018 to 1,214 in 2022. This rapid increase could be attributed to advancements in technology, greater interdisciplinary collaboration, and the rising global emphasis on addressing complex scientific challenges, culminating in a significant leap in scholarly contributions.

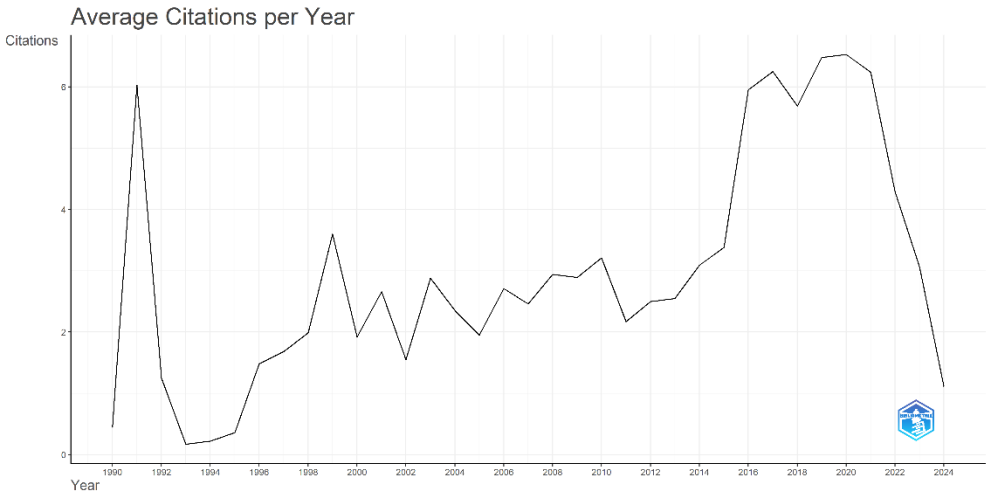

Figure 2. The average citations per year
(Author's research results/contribution)

The chart on average citations per year (Figure 2) shows early publications from 1991 and 1999 had high citation rates, indicating their lasting impact. As publication volume increased from the mid-2000s, newer articles had more consistent but lower citation rates. With a surge in publications (e.g., 1,475 in 2024), recent years saw a drop in average citations per year to 1.11, suggesting that newer papers face challenges in accumulating citations quickly or that there's a lag in citation growth.

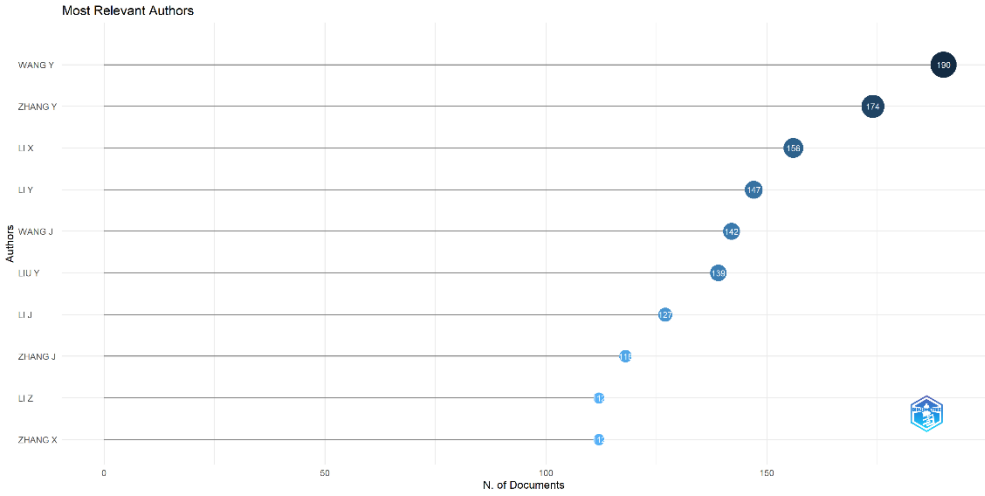

Figure 3. The most relevant authors
(Author's research results/contribution)

The most relevant authors chart (Figure 3) reveals key contributors in the field, with Wang Y leading with 190 articles, followed by Zhang Y (174) and Li X (156). Fractionalized authorship, which accounts for collaborative efforts, highlights significant individual contributions from Li X (34.84), Wang Y (33.92), and Zhang Y (33.46). This high output, especially from authors with common surnames like Wang,

Zhang, and Li, suggests their central role in the research area, likely through extensive collaborative networks. Their substantial presence indicates that they are pivotal in advancing foundational research and innovation in the field.

Lotka's Law is evident in the author productivity data, showing that most authors contribute only a few papers while a small number are highly prolific. In this dataset, 83.7% of authors have written just one document, and only 0.086% have authored two papers. Productivity declines sharply with increasing publications, with around 0.008% of authors writing five or more papers. This pattern reflects Lotka's Law, where a small group of highly productive researchers dominates the output, while the majority make only occasional contributions.

Table 3. Authors' Local Impact
(Author's research results/contribution)

Author	h_index	g_index	m_index	TC	NP	PY_start
LI J	29	58	1.706	3535	127	2008
WANG J	28	49	1.750	2651	142	2009
WANG Y	28	56	1.400	3663	190	2005
LI X	26	48	1.368	2706	156	2006
LI Z	26	48	1.130	2487	112	2002
ZHANG Y	26	41	1.238	2181	174	2004
LIU Y	24	49	2.400	2720	139	2015
LI Y	23	44	1.150	2186	147	2005
LIU X	22	38	1.158	1561	81	2006
CHEN Z	20	47	1.333	2285	66	2010

The top 10 authors in the dataset (Table 3) demonstrate notable impact. LI J leads with an h-index of 29, 127 publications, and 3,535 citations. WANG J has an h-index of 28 with 142 papers and 2,651 citations. WANG Y, with the highest publication count (190) and citations (3,663), also has an h-index of 28. LI X, LI Z, and ZHANG Y each have an h-index of 26, indicating consistent influence. LIU Y's high m-index of 2.4 reflects rapid career development since 2015. Their contributions significantly shape their research fields.

Table 4. Coupling legend
(Author's research results/contribution)

Cluster	Keywords	Centrality	Impact	Color
1	Machine Learning, Artificial Intelligence, Knowledge Management	0.394	1.000	Red
4	Deep Learning, Machine Learning, Transfer Learning	0.461	1.000	Purple
5	Machine Learning, Transfer Learning, Knowledge Transfer	0.415	1.000	Orange

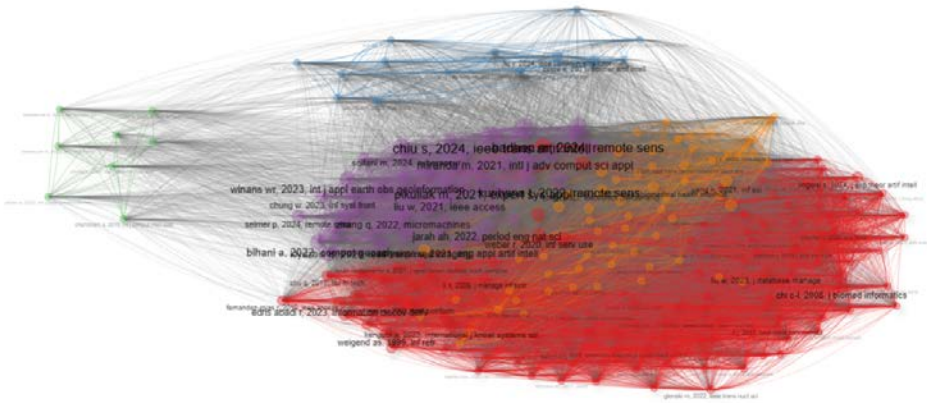

Figure 4. The clustering analysis by coupling
(Author's research results/contribution)

The clustering analysis (Figure 4) highlights distinct research domains (Table 4). Cluster 1, with terms like "artificial intelligence" and "machine learning," shows high centrality (0.394) and impact (1.000). Cluster 4, focused on "deep learning," has slightly higher centrality (0.461) but a similar impact. Cluster 5, covering "transfer learning" and "knowledge transfer," balances centrality (0.415) and impact (1.000), indicating its significant role.

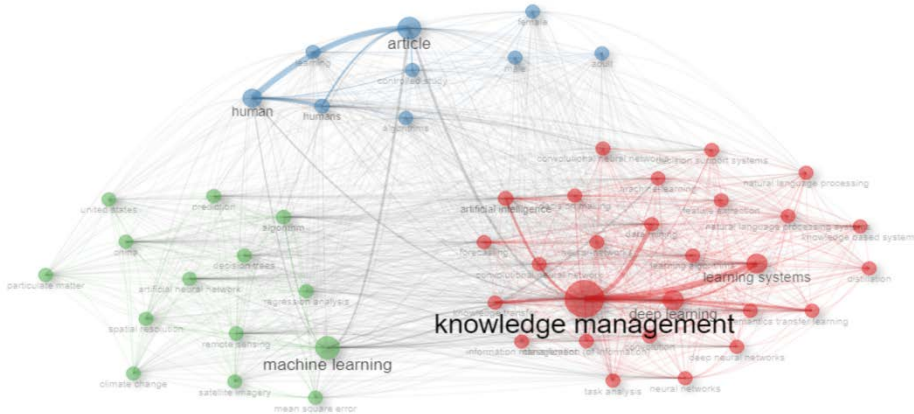

Figure 5. The co-occurrence analysis by coupling
(Author's research results/contribution)

The co-occurrence analysis (Figure 5) examined the relationships between key research topics in our dataset, revealing how frequently these topics appear together in the literature. In this analysis, nodes represent individual research terms, while edges indicate their co-occurrence within the same publications. Metrics such as betweenness centrality, closeness centrality, and PageRank provide insights into the importance and influence of each term within the network. For instance, terms like "knowledge management" and "deep learning" exhibit high betweenness, suggesting they are crucial bridges connecting various network parts. "Machine learning" also emerges as a prominent term with substantial centrality, highlighting its significant role across multiple clusters.

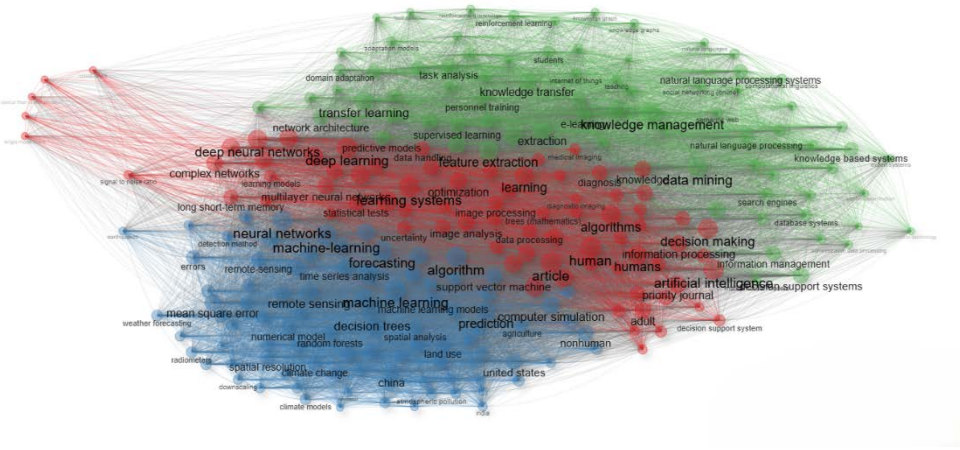

Figure 6. The thematic map analysis network
(Author's research results/contribution)

The thematic map analysis network (Figure 6) reveals that *deep learning* is a central theme in the research, with high centrality scores indicating its prominence. Key terms such as *neural networks*, *image classification*, and *optimization* are strongly associated with *deep learning*, reflecting its broad applications and influence. *Machine learning*, the second major theme, is also significantly present, with related concepts like *neural networks*, *algorithms*, and *forecasting* highlighting its importance in data-driven fields. Lastly, *knowledge management* appears as a third central theme, with terms like *data mining*, *knowledge transfer*, and *feature extraction* emphasizing its role in managing and leveraging information effectively. The centrality measures across these clusters underline these themes' interconnectedness and relative importance in the research landscape.

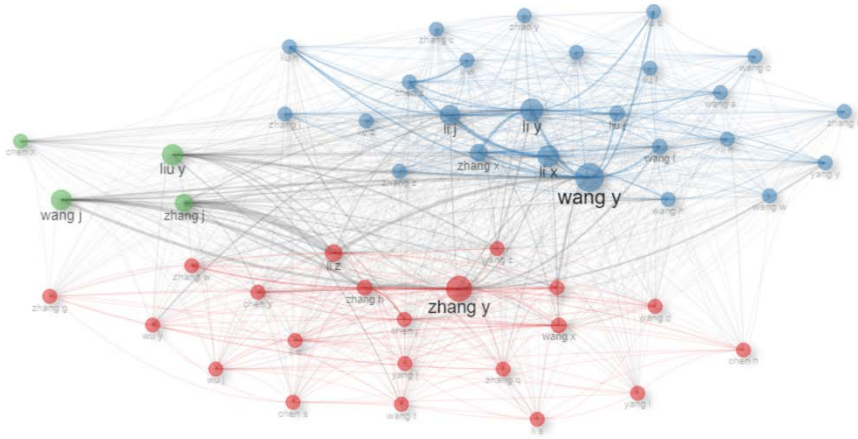

Figure 7. The collaboration network
(Author's research results/contribution)

The collaboration network analysis (Figure 7) highlights distinct patterns of centrality across different clusters, revealing nodes' varying influence and connectivity. In Cluster 1, Zhang Y emerges as the most central figure with top scores in-betweenness, closeness, and PageRank, suggesting a pivotal role in network connectivity and influence. Cluster 2 shows Wang Y as a major connector and influential node, followed by other key players like Li X and Li Y, who also hold significant centrality. In Cluster 3, Liu Y and Zhang J are prominent, indicating their crucial positions within the network. Overall, nodes with high betweenness centrality are essential for network connectivity, while those with elevated PageRank and closeness scores hold substantial influence and accessibility.

Discussion

In the following section, we tackle the research question by analyzing the trends in publications, identifying the most influential contributors, and examining the primary research themes in the field of *Artificial Intelligence* and *Knowledge Management*. This analysis also covers key documents and clusters, as well as emerging challenges, based on the bibliometric and content analyses presented earlier.

The analysis reveals a significant upward trend in the number of publications related to AI integration into KM from 1990 to 2024. Starting with modest numbers in the early 1990s, the field has seen a dramatic increase in research output, peaking at 1,475 articles in 2024. This growth reflects heightened interest and advancements in AI technologies.

Citation metrics also indicate a moderate to high impact of this research. The average number of citations per document is 22.09, suggesting that while individual papers are cited frequently, the citation rate for more recent publications is lower, possibly due to the lag in citation accumulation for newer works. This trend highlights the rapid

expansion of research output, where newer publications may have less time to garner citations, impacting their relative influence.

The bibliometric analysis identifies several key contributors in the field. Notably, authors such as Wang Y, Zhang Y, and Li X are among the most productive and influential, with high publication counts and citation metrics. Institutions and journals contributing significantly to this field include prominent ones like the *Journal of Knowledge Management, Expert Systems with Applications*, and *Information Systems Frontiers*. The United States, China, the United Kingdom, and Germany have emerged as leading countries in AI-KM research, highlighting a global commitment to advancing this interdisciplinary field.

The thematic map and keyword analysis reveal that key research themes in AI and KM include deep learning, machine learning, and knowledge management. Terms such as "neural networks," "data mining," and "knowledge transfer" are prevalent, indicating a strong focus on data-driven approaches and the effective management and application of knowledge. The prominence of these themes underscores the shift towards leveraging advanced AI techniques to enhance KM practices. The bibliographic coupling analysis highlights several key clusters of documents. For instance, Cluster 1, focusing on "artificial intelligence" and "machine learning," demonstrates high centrality and impact, signifying its core importance in current research. Cluster 4, centered on "deep learning," and Cluster 5, focusing on "transfer learning," also exhibit notable centrality and impact. These clusters illustrate how different areas within AI-KM research are interconnected and contribute to the broader understanding of AI's role in KM.

Content analysis of the documents reveals several critical insights:
Research Trends: The field is evolving rapidly, with an increasing focus on AI applications in KM and developing sophisticated AI tools for managing knowledge.
Practical Applications: AI technologies are applied to enhance knowledge discovery, personalization, and decision-making processes within KM systems.
*Future Directions***:** Future research should address gaps in managing tacit knowledge and explore the ethical implications of AI in KM. There is a need for comprehensive models that integrate AI across all KM processes.
AI's integration into KM systems addresses both explicit and tacit knowledge, though challenges remain. While AI effectively manages explicit knowledge through data processing and analytics, managing tacit knowledge—knowledge that is difficult to codify and share—remains challenging. The literature suggests that future AI tools should focus on better capturing and facilitating the sharing of tacit knowledge, offering new opportunities for enhancing KM practices.
Ethical considerations in AI-KM integration include concerns about data privacy, algorithmic bias, and the responsible use of AI technologies. The literature emphasizes the need for frameworks that ensure AI systems are developed and used ethically, addressing potential biases and protecting sensitive information. Responsible AI practices are crucial for maintaining trust and ensuring equitable outcomes in KM systems.

Conclusions

This work provides a comprehensive examination of the integration of AI into KM through an extensive bibliometric analysis. Our findings reveal a significant upward trend in research output, reflecting the growing importance and impact of AI in the field of KM. The study identified key contributors, including influential authors, institutions, and journals, highlighting their roles in shaping the current landscape of AI-KM integration.

The study also uncovered predominant research themes such as machine learning, deep learning, and knowledge transfer, illustrating the diverse focus areas within the field. Key documents and clusters were identified, demonstrating how various studies interconnect and contribute to the development of AI in KM. The content analysis further illuminated emerging challenges and opportunities, particularly in managing tacit knowledge and addressing ethical considerations related to AI.

Our research emphasizes the need for continued exploration in several areas. Future studies should focus on developing comprehensive models that integrate AI across all aspects of KM, particularly for managing tacit knowledge. Additionally, examining the ethical implications of AI in KM remains crucial to ensure responsible and effective use of technology.

The findings from this study underscore the relevance of the working definitions for AI-KM integration. The results affirm AI's transformative impact on KM by highlighting key themes like machine learning and deep learning and noting influential research and contributors. The focus on managing tacit knowledge and addressing ethical concerns further supports the need for these definitions to reflect both technological advancements and practical challenges. This alignment confirms the definitions' robustness and highlights the importance of continued research to address emerging complexities in AI-KM integration.

However, the study is not without limitations. The reliance on bibliometric data and the scope of the literature analyzed may not capture all nuances of AI-KM integration. Future research could benefit from incorporating qualitative insights and case studies to provide a more holistic understanding of AI's impact on KM practices.

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