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Global Research Trends in Knowledge Management in Higher Education: A Bibliometric Analysis

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ABSTRACT

This study provides a comprehensive analysis of KM research, highlighting emerging trends and critical gaps. It offers practical insights for researchers and policymakers to guide KM strategy development in HEIs. This study conducts a comprehensive bibliometric analysis of knowledge management (KM) research in Scopus-indexed publications from 1998 to 2024, with a particular focus on developments within higher education institutions (HEIs). The research aims to trace the evolution of KM scholarship, identify influential contributors, and uncover emerging thematic trends. A total of 696 articles were analyzed using both quantitative and qualitative bibliometric techniques, including publication and citation analysis, co-authorship networks, and keyword co-occurrence. Performance analysis assessed scholarly output and impact, while science mapping facilitated by VOS-viewer visualized intellectual structures and research clusters. The findings reveal a significant growth in KM research, peaking in 2023 with 72 publications. Northwestern Polytechnical University stood out in citation impact, and the United Kingdom was identified as the most prolific contributor. The journal Computers and Education led in output, and the most cited article addressed KM readiness in HEIs. Notably, artificial intelligence (AI) and digital transformation emerged as promising directions for future research. This study provides valuable insights into the development of KM in the higher education sector and offers strategic implications for researchers, academics, and policymakers aiming to enhance institutional innovation and competitiveness.

Keywords: Knowledge Management, Higher Education Sector, Bibliometric Analysis, Co-citation Analysis, Bibliographic Coupling
JEL Classifications: I23, M10, O34, D83

1. INTRODUCTION

Knowledge management (KM) plays a crucial role in enhancing organisational performance, particularly within higher education institutions (HEIs). Effective KM practices optimize teaching, learning, and administrative processes while also driving innovation and securing a competitive edge in today's knowledge-driven global economy. Despite its importance, existing studies often fall short of providing a comprehensive analysis of KM's impact within the higher education sector, frequently focusing on a limited selection of journals, methodologies, or narrow research areas. The Knowledge-Based View (KBV) offers a robust theoretical framework for employing bibliometric methods in the analysis of scientific knowledge. The Knowledge-Based View (KBV) is a strategic management framework that underscores the critical role of knowledge as a key resource for gaining a competitive advantage. This perspective is particularly pertinent to both Small and Medium Enterprises (SMEs) and large organizations, where the strategic utilization of unique knowledge assets fosters innovation and supports sustained competitive edge (Shekhar & Valeri, 2023; Arief et al., 2023). According to the KBV, effective knowledge management practices such as the creation of Communities of Practice (CoPs) and the application of the SECI model for knowledge creation

and sharing are vital for converting individual expertise into valuable organizational knowledge assets (Thoha et al., 2021). This process is especially important for organizations in sectors like energy, including companies such as PT Pertamina and PT PLN, where knowledge sharing and management are deeply embedded in the organizational culture. These practices help address challenges such as generational gaps and employee turnover, thereby enhancing overall performance (Fauzi et al., 2019; Thoha et al., 2021; Novianti, 2019; Umar et al.,2023). The KBV is often discussed in tandem with the Resource-Based View (RBV), with both theories highlighting the significance of intangible assets in strategic management. However, the KBV places a greater emphasis on the dynamic capabilities of organizations, focusing on their ability to manage and effectively apply knowledge (Arief et al., 2023). This approach underscores the importance of developing robust knowledge management systems that facilitate the continuous flow and application of knowledge, thereby enabling organizations to sustain their competitive advantage in rapidly evolving environments (Thoha et al., 2021; Novianti, 2019).

The KBV underscores knowledge as a strategic resource vital for achieving organisational advantage. When aligned with bibliometric techniques, the KBV enables a structured exploration of research trends, identification of gaps, and the strategic development of scientific endeavors (Oliveira et al., 2019). Methods such as performance analysis and science mapping are particularly effective in assessing the intellectual structure and impact of research fields. These approaches allow organizations to manage their knowledge assets by pinpointing influential publications, key authors, and collaborative networks (María et al., 2017). A noteworthy example of bibliometric methods in practice is within the pharmaceutical industry, where these techniques are employed to evaluate publishing and patenting activities. This analysis not only guides strategic decisions but also facilitates innovation (Steven and Hamilton, 2000). Similarly, applying these methods in the context of higher education institutions could provide valuable insights into the evolving landscape of KM research, helping institutions make informed decisions to enhance their own knowledge management practices.

From the perspective of the Knowledge-Based View (KBV), integrating bibliometric methods into strategic analysis is a powerful approach to dynamically assess scientific fields. These methods enable organizations to gain a global perspective on research activities, helping them identify leading contributors, thematic clusters, and potential collaborators. Such insights strengthen their competitive positioning in knowledge-intensive environments (Barra et al., 2024). For instance, keyword co-occurrence and co-citation analyses can reveal emerging themes and research gaps, guiding targeted investments in high-impact areas. However, the KBV emphasizes the need for critical evaluation of bibliometric indicators. Metrics such as the h-index and citation counts are methodology-dependent and must be interpreted carefully to ensure accurate conclusions (Johan, 2005). Without this critical approach, bibliometric analyses risk misrepresenting the value or relevance of scientific contributions, potentially leading to skewed strategic decisions.

The integration of AI into knowledge management (KM) is becoming crucial for enhancing the effectiveness and sustainability of higher education institutions (HEIs). AI tools, such as chatbots and conversational systems, are transforming knowledge creation, sharing, and application. For instance, Georgia State University's "Pounce" chatbot has optimized administrative and educational support, boosting institutional efficiency (Tsoi and Strønen, 2024). Similarly, AI chatbots enhance student services and streamline processes, though challenges like academic integrity and resource allocation persist (Zohaib et al., 2024). In Lebanon, generative AI tools like ChatGPT improve personalized learning and resource efficiency, contributing to sustainable development (Nada et al., 2024). Despite these advancements, research on the role of women managers in KM for sustainable development remains limited, particularly in Lebanon and Syria (Nada et al., 2024). This underscores the need for inclusive KM strategies that leverage AI to address regional challenges and drive sustainability. Frameworks like the IoE IKM Model further support human-machine collaboration, facilitating effective management of AI-generated knowledge (Gustavo et al., 2024). By adopting AI-driven KM practices, HEIs can foster innovation, maintain competitiveness, and ensure long-term sustainability (Sebopelo, 2024).

Bibliometric analysis is the process of using different frameworks, tools, and methods to study citations in scholarly publications. This analysis contributes to the development of various metrics that aid in comprehending the intellectual structure of academic disciplines and assessing the influence of scientific works and researchers (Dewi et al., 2023). Elsevier's extensive abstract and citation database, Scopus, has greatly facilitated the widespread use of bibliometric analysis by enabling large-scale studies that encompass publications from various disciplines, including life sciences, social sciences, physical sciences, and health sciences (Miltos et al., 2023; Elena and Kharybina, 2022). This tool has proven crucial in analyzing publications, recording sources, and identifying significant authors, institutions, and nations, thereby improving the assessment of scientific journals, studies, and researchers in the academic community. The availability of databases like Scopus has made it easier to perform empirical assessments of knowledge management research. These databases are crucial for searching journals, papers, and citations. Bibliometric analysis offers insights into rising article trends, journal performance, prolific authors, and cooperation patterns. When assessing impact, two commonly used indicators are the scientific output of papers and highly cited documents (Stratone, 2023; Farooq and Vij, 2019; Li et al., 2023).

Past studies have employed various methodologies to assess the scientific output of knowledge management (KM) research, including performance analysis (Gaviria-Marin et al., 2019; Nguyen, 2023) and science mapping (Serenko, 2013; Sanguankaew and Ractham, 2019). Performance analysis relies on bibliometric metrics like the h-index, productivity, and citation counts, while science mapping uses techniques such as keyword analysis, co-citation analysis, thematic mapping, and network collaboration studies (Hallinger and Kovacevic, 2019). The increasing volume of KM literature has made it challenging to manage and track effectively, prompting the development of methods such as bibliometric analysis, scient metrics, and meta-analysis (Farooq,

2021). Researchers like Serenko, Bontis, and Gaviria-Marin have made notable contributions to advancing this field, but previous studies have been narrowing in focus often concentrating solely on intellectual capital or specific journals like The Journal of Knowledge Management. These investigations have typically centered on isolated concepts, such as organizational learning and information exchange, and have lacked methodological consistency. Furthermore, small sample sizes have limited the generalizability of results, as most studies have been restricted to bibliometric analyses of journals, overlooking broader KM trends. As a result, previous research has offered fragmented insights into the evolving landscape of KM and its influence on academic and institutional performance.

This study aims to build upon and extend prior research on knowledge management (KM) within higher education institutions (HEIs) by incorporating a broader range of academic publications and employing more rigorous methodologies. Effective KM practices are essential for fostering academic excellence, administrative efficiency, and innovation within HEIs. This research investigates how KM influences research quality, collaboration, and institutional innovation, offering actionable insights for optimizing KM strategies to enhance institutional performance and secure a competitive edge in the global knowledge economy. Furthermore, the study focuses on several key objectives, including identifying leading KM journals in the higher education sector, highlighting the most cited authors and influential documents, analyzing prevalent research themes, and examining the total volume of KM-related publications in HEIs. Additionally, it aims to determine the most productive journals, as well as the countries and institutions most frequently cited in KM research. To address these objectives, the study employs performance analysis to provide a quantitative overview of productivity and impact, alongside science mapping techniques to uncover intellectual structures, thematic trends, and collaboration patterns.

This research makes significant contributions to the field by providing a comprehensive and up-to-date analysis of KM within HEIs. It identifies gaps in the existing literature, offers a global perspective on research trends, and pinpoints influential journals, authors, and institutions, guiding researchers and policymakers in developing effective KM strategies and allocating resources efficiently. The findings also shed light on emerging themes and collaboration opportunities, contributing to the strategic development of KM practices in HEIs. Likewise, the report is structured into three main sections. The first section outlines the methodology, detailing the approaches used for performance analysis and science mapping. The second section presents the results, offering insights into KM productivity, thematic trends, and institutional impact. The final section discusses the findings, synthesizing their implications for practice and providing recommendations for future research.

2. BIBLIOMETRIC RESEARCH METHODS

2.1. Defining the Appropriate Search Terms

The study strategically combined terminology from two cross-disciplinary components: knowledge management and higher education. This involved incorporating keywords associated with each area to ensure comprehensive coverage of both aspects. Table 1 lists the two strings and corresponding keyword sets used for Scopus data extraction and document selection. This study derived these terms after a thorough review of relevant literature to capture the essence of the research domain. This study employed terms such as "knowledge management," "information management," "data stewardship," "intellectual resource management," "knowledge oversight," "information coordination," and "knowledge curation." The study also encompassed terms associated with higher education, such as "higher education," "Tertiary education," "Post-secondary education," "University education," "Advanced learning," "Collegiate education," "Academic study," and "Higher learning." This approach enhances the study's scope and depth, facilitating a comprehensive examination of the interplay between knowledge management and higher education. It ensures the adequate capture of relevant literature across disciplines, laying a robust foundation for analysis and interpretation.

2.2. Data Collection

Bibliometric analysis is a robust approach to quantitatively assessing scholarly publications, using statistical and mathematical models to measure scientific activity and research achievement (Zyoud et al., 2015). The study is based on data obtained from important bibliographic databases such as Web of Science, Scopus, and Google Scholar. Among these, Scopus is particularly notable for its extensive coverage of journals and citation analysis (Zyoud et al., 2015; Groff et al., 2020). Scopus's extensive selection of journals and its ability to analyze citations more quickly make it a more desirable option compared to alternatives

Table 1: Article inclusion and exclusion criteria

Selection criteria	Exclude	Include
Database: "Scopus" Date of Search: "June 11, 2024" Period of Publications: 1998-2024 (TITLE-ABS-KEY ("Knowledge management" OR "Information management" OR "Data stewardship" OR "Intellectual resource management" OR "Knowledge oversight" OR "Information coordination" OR "Knowledge curation") AND TITLE-ABS KEY ("higher education" OR "tertiary education," OR "post-secondary education" OR "university education" OR "advanced learning," "collegiate education" OR "academic study" OR "higher learning" OR "College")		1776
Subject Area: "computer science," "business, management, accounting," "economics, econometrics and finance," "social sciences," and "arts and humanities"	974	802
Publication Type: "Articles and Review"	189	785
Language Screening: "Include documents published in English only"	89	696

such as Web of Science and PubMed (Gaviria-Marin et al., 2019). Scopus is a very valuable resource for extensive research evaluations and institution rankings due to its extensive coverage, expanded information, and comprehensive author biographies (Baas et al., 2020; Aghel et al., 2024). Several disciplines, such as organizational ambidexterity (Amjad, 2020) and sustainable project management (Saadi et al., 2023), widely use Scopus in bibliometric studies, underscoring its crucial contribution to academic research. Scopus provides academics with powerful tools for visualizing and analyzing data, such as the VOS Viewer. These tools enable researchers to perform thorough studies and get valuable insights that are crucial for expanding knowledge in many fields.

The study used a methodical technique to carefully identify and select a total of 696 publications, as shown in Table 1. The research took a strategic approach by using certain keywords, such as "knowledge management," "information management," "data stewardship," "intellectual resource management," "knowledge oversight," "information coordination," and "knowledge curation." The study also encompassed terms associated with higher education, such as "higher education," "tertiary education," "post-secondary education," "university education," "advanced learning," "collegiate education," "academic study," and "higher learning." In addition, this study restricted the search to English-language publications across several fields. The study included proactive measures to ensure data integrity, including addressing the potential for errors in extracting data from online sources. To ensure reliable findings, it was necessary to use meticulous data cleaning and validation techniques. To enhance the dependability and clarity of the findings, Donthu et al. (2021a) suggested doing thorough bibliographic and bibliometric analyses, along with using visualization tools. The researchers used the "natural language processing" capability of the VOS reader to remove superfluous terms from the titles, abstracts, and keywords of the article. Furthermore, the process involves transforming abbreviated forms into their enlarged counterparts using the same approach. For example, KSFs serve as crucial success factors. In the end, many cleaning approaches contribute to achieving theme evaluation uniformity.

As academics specializing in knowledge management, our study must concentrate on certain subject areas that are directly relevant to our research topic. The study did a comprehensive investigation, specifically targeting disciplines such as "computer science," "business, management, accounting," "economics, econometrics, finance," "social sciences," and "arts and humanities" to ensure that the gathered materials directly supported our research. By using this targeted approach, we can comprehensively investigate the relevant literature, extract noteworthy findings, and contribute to the advancement of knowledge in our particular field of research. Furthermore, in the academic sphere, the credibility and reliability of research findings heavily depend on the excellence of the published works. By selecting the "Articles and Review" category, we prioritize scholarly publications that have undergone rigorous peer review processes. We highly value these articles due to their meticulous methodology, theoretical advancements, and empirical evidence, which render them essential sources for constructing a robust research framework. Furthermore, review papers provide comprehensive synopses of contemporary literature, offering valuable perspectives and guiding future research pursuits. English serves as the global language for academic communication, allowing researchers worldwide to access and engage with intellectual content. By only including articles published in the English language, we ensure access to a vast assortment of high-quality research materials, broadening the scope of our literary analysis. This criterion facilitates a thorough examination and encourages international collaboration and knowledge exchange within the global academic community.

2.3. Selecting the Techniques for Analysis

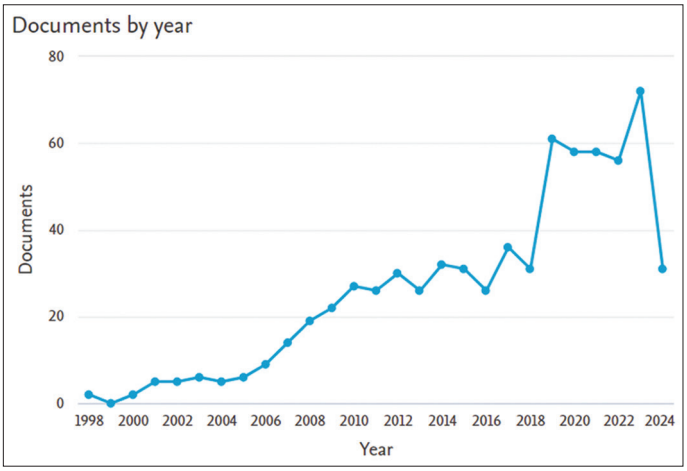
Bibliometric analysis refers to a set of methods used to quantitatively evaluate and measure text and information (Goyal and Kumar, 2021). Researchers can use this strategy to extract new and valuable information from literature reviews, thereby serving as an additional source of knowledge (Groff et al., 2020). Furthermore, to accomplish this task effectively, it is imperative to generate and disseminate biographies focused on a specific subject, discern patterns within a particular field of study, and evaluate research works that serve as a point of reference for comprehending the present state of research (Yu et al.,2020; Mohammed et al.,2019; Ahmuda and Yakhlf, 2024; Aghel et al., 2025). To scrutinize the biographic data presented by Donthu et al. (2021b), researchers use bibliometric analysis approaches such as authorship, citation, bibliographic coupling, co-citation, and co-word analysis.

3. FINDINGS

3.1. Performance Analysis

Figure 1 depicts the patterns of publishing in knowledge management (KM) research in the higher education sector, demonstrating the progression from its beginning to its most significant pinnacle in 2023. The exploration of knowledge management (KM) research in higher education began with Jennifer's groundbreaking study in 2000, which raised the fundamental issue, "Is higher education adequately prepared for the implementation of knowledge management?" This crucial

Figure 1: Knowledge management in higher education research publication trends



research served as a notable milestone, although interest in KM started to increase as early as 1998. Following Jennifer's first study, there has been a consistent and significant rise in the number of publications per year, indicating an increasing acknowledgment of the significance of knowledge management in higher education. The continuous increase in academic production indicates that knowledge management (KM) has not only maintained but significantly enhanced, its significance and influence throughout time. Our observations indicate a clear growth in research in this field, which will lead to further progress and a deeper understanding of the potential applications of knowledge management in educational institutions.

3.2. Prominent authors, organizations and countries for knowledge management research in higher education sector

Table 2 indicates that Jennifer R. is the author with the highest level of influence, as shown by her 523 citations over five publications. The large number of citations serves as evidence of her substantial influence and acknowledgement within the academic sphere. A total of 927 citations from various writers recognize Northwestern Polytechnical University as a prominent institution. The university's significant citation count demonstrates its robust research output and position as a notable center of intellectual activity. Furthermore, the United Kingdom is at the forefront in terms of overall citations across nations, with 50 articles accumulating a total of 211 citations. This demonstrates the UK's strong intellectual influence and widespread recognition of its scholars' achievements. Jennifer R., Northwestern Polytechnical University, and the United Kingdom all demonstrate exceptional quality and significant influence in the global academic sphere, establishing standards for meaningful research and intellectual achievements.

These findings collectively illustrate the pivotal role of Jennifer R., Northwestern Polytechnical University, and the United Kingdom in advancing high-quality research and shaping the global academic landscape. Their contributions set benchmarks for excellence, highlighting the importance of impactful research and sustained intellectual engagement.

3.3. Most influential articles on knowledge management research in higher education sector

Table 3 provides a comprehensive analysis of various academic journals in Scopus, detailing their total citations (TC) and the number of article publications (TP) across three distinct periods: 1998-2010, 2011-2019, and 2020-2024. Among these, Computers and Education stands out as the most influential journal, accumulating 570 citations from eight publications, underscoring its significant impact and authority in the field of educational technology. Following closely, the Journal of Knowledge Management has garnered 546 citations from 16 publications, indicating its critical role in the discipline of knowledge management. Similarly, the Journal of Enterprise Information Management has received 544 citations from six publications, highlighting its contribution to enterprise information systems management.

Other notable journals include the International Journal of Educational Management and Computers in Human Behavior, with 489 and 418 citations, respectively, reflecting their substantial influence in educational management and human-computer interaction. Furthermore, the Vine Journal of Information and Knowledge Management Systems demonstrates significant recent activity, with 304 citations from 25 publications, particularly increasing in the 2020-2024 period. The Journal of Cleaner Production, Online Information Review, and Journal of Technology Transfer also emerge as prominent, each contributing significantly to their fields with over 200 citations. Additionally, journals such as the Learning Organization, International Journal of Knowledge Management, Internet and Higher Education, and Campus-Wide Information Systems each exceed 100 citations, showcasing their importance in their respective domains. Notably, Sustainability (Switzerland) has shown remarkable recent growth, amassing 141 citations from 12 publications, predominantly in the 2020-2024 period. Finally, the Journal of Information and Knowledge Management, Kybernetes, and Knowledge Management Research and Practice maintain a substantial academic presence, with significant citation counts. Overall, Computers and Education emerges as the most influential journal based on its total citations, setting a benchmark for impactful research and scholarly contributions in the global academic landscape.

Table 2: Most inflation author, institutions and countries

TC	Authors	TP	TC	Institutions	TP	TC	Countries	TP
523	Jennifer R.	5	211	Northwestern Polytechnical University	2	927	United Kingdom	50
444	Umar M.	9	144	Open University of Mauritius	3	856	United States	24
278	Iqbal, A.	3	127	Northwestern Polytechnical University	3	660	Spain	23
220	Sahibzada, U	6	116	Department of Management Sciences, Uni Islamabad	3	619	Malaysia	37
173	Cai J.	5	108	Northwestern Polytechnical University	4	438	China	17
173	Sahibzada, H. F.	5	82	Faculty of Management, Multimedia University	3	427	Italy	46
167	Thomas M.	4	72	Uni of Bergamo	2	395	Pakistan	15
120	Fauzi, M. A.	5	33	Management, Industrial Engineering and Tourism (DEGEIT), Uni of Aveiro	2	273	Australia	21
109	Zahid S.	4	21	Anadolu University	2	260	Jordan	12
107	Adedapo O. O.	3	18	Department of Management Information Systems, Uni of Jordan	2	215	India	35
83	María L. S.	3	17	Facultad de Ciencias de la Empresa, Uni Politecnica de Cartagena	2	208	Taiwan	16
81	Ramayah T.	3	17	Facultad de Medicina, Universidad de Murcia	2	200	Germany	14
54	Nguyen N. T.	3	14	Department of Mechanical and Aerospace Engineering, Brunel	2	175	Hong Kong	13
22	Mohammed A.	3	14	Uni of London	2	139	Indonesia	13
22	Adnan A.	3	14	Greece Central School District	2	133	France	14
22	Liu Y.	3	12	Huaiyin Institute of Technology	2	130	Iraq	17

TC: Total citations, TP: Total number of article (s) publications. The data is compiled from bibliometric sources

Table 4 show that three most influential articles in the field of knowledge management within higher education, as cited, are pivotal in advancing scholarly understanding and practical application. Jennifer's (2000) seminal work, "Is higher education ready for knowledge management?" with 523 citations, lays the groundwork by addressing the preparedness of higher education institutions for implementing effective knowledge management practices. Sahibzada et al. (2022) have cited their study, "Unpacking knowledge management and organisational performance: A comparison between emerging and developing countries," 444 times. The comparative analysis demonstrates the application and impact of knowledge management in various economic scenarios. Iqbal et al. (2018) further enrich the discourse with their article, "From knowledge management to organisational performance: modelling the mediating role of innovation and intellectual capital in higher education," which has garnered 278 citations. Their work models the intricate relationship between knowledge management, innovation, and intellectual capital, underscoring its critical role in enhancing organisational performance in higher education settings.

Collectively, these articles represent pivotal contributions to the evolution of knowledge management in higher education, addressing institutional readiness, cross-country applications, and the mediating effects of innovation and intellectual capital.

3.4. Thematic Trends of Knowledge Management Research in Higher Education Sector

Figure 2 shows that the VOS viewer visualization provides a comprehensive summary of the theme patterns in knowledge management research in the higher education sector between 1998 and 2010. The visualization displays a network of interrelated keywords, emphasizing the progression and interconnections of important topics over time. The hue purple represents the early phases of this study era, during which the prominence of topics like "catch wales" suggests their importance. As the timeline advances towards 2010, symbolized by the color yellow, there is a change in attention towards topics such as "higher education" and "knowledge economy," indicating an increasing interest in these areas. The dimensions of the nodes, such as the significant "higher education," indicate their frequency and importance

Table 3: Most inflation journal of knowledge management in higher education

Journal	TC	TP	1998-2010	2011-2019	2020-2024
"Computers and Education"	570	8		7	1
"Journal of Knowledge Management"	546	16	3	6	7
"Journal of Enterprise Information Management"	544	6		4	2
"International Journal of Educational Management"	489	9	3	4	2
"Computers in Human Behavior"	418	6		4	2
"Vine Journal of Information and Knowledge" Management Systems"	304	25		8	17
"Journal of Cleaner Production"	290	9		4	5
"Online Information Review"	255	9	3	6	
"Journal of Technology Transfer"	227	7		4	3
"Learning Organization"	224	5	2	2	1
"International Journal of Knowledge Management"	221	9		6	3
"Internet and Higher Education"	192	5		2	3
"Campus-Wide Information Systems"	144	5	3	2	
"Sustainability (Switzerland)"	141	12		1	11
"Journal of Information and Knowledge Management"	137	16	3	9	5
"Kybernetes"	125	8		4	5
"Knowledge Management Research and Practice"	124	8	1		7
"Education and Information Technologies"	123	7		3	4
"International Journal of Management in Education"	103	11	3	5	3
"International Journal of Emerging Technologies in Learning"	70	10		5	5

"TC: Total citations, TP: Total number of article (s) publications"

Table 4: Most influential article of knowledge management un higher education

Author (s)	Title	TC
Jennifer (2000)	"Is higher education ready for knowledge management?"	523
Sahibzada et al. (2021)	"Unpacking knowledge management and organizational performance: a comparison between emerging and developing countries"	444
Iqbal et al. (2018)	"From knowledge management to organizational performance: Modelling the mediating role of innovation and intellectual capital in higher education"	278
Latif (2022)	"Symmetric and asymmetric modeling of knowledge management enablers to knowledge management processes and knowledge worker productivity in higher education institutes"	220
Jianfeng et al. (2019)	"Development and validation of a multidimensional instrument for measuring internal marketing in Chinese higher education"	173
Sharif et al. (2004)	Knowledge management (KM) framework for representing lessons learned system for Communities of practice in Institutions of higher learning	151
Fauzi (2023)	Exploring the factors of social media in facilitating knowledge-sharing among university academics: a case study approach	120
Shafait et al. (2024)	"Examining the impact of sustainable leadership on green knowledge sharing and green learning: Understanding the roles of green innovation and green organisational performance"	109
Adedapo et al. (2018)	"An integrative model of knowledge sharing in Malaysian Higher Learning Institute"	107

within the study field. Moreover, the grouping of correlated terms, such as "collaborative writing" and "Drupal," highlights the interrelatedness of these subjects within the realm of information management. This visualization accurately represents the evolving landscape of research trends in higher education knowledge management. It offers useful insights into shifting priorities and related topics.

Figure 3 illustrates a VOS viewer visualization of knowledge management research themes from 2011 to 2019. This visualization maps the network of keywords, showing their prevalence and interconnections. The temporal gradient from purple in 2014 to yellow in 2018 highlights the chronological development of key themes. Central to the visualization, "knowledge management" is the most significant and frequently occurring theme, surrounded by related concepts such as "knowledge sharing," "knowledge management system," "knowledge creation," and "organizational learning." As the timeline progresses, newer themes like "open access," "3D printing," "exaptation," and the "curse of knowledge" emerge. Larger nodes indicate more significant themes, and the clustering of nodes with connecting lines underscores their co-occurrence and thematic relationships. This visualization provides scholars and practitioners with insights into the dynamic trends and evolving priorities in knowledge management research.

Figure 4 shows The VOS viewer visualization provides a comprehensive examination of thematic patterns in higher education research spanning from 2020 to 2023. It maps the interconnectedness of keywords to reveal the changing priorities and significant themes in academic discussions. The central focus of the visualization is "higher education," which is the most prominent and constantly recurring motif, emphasizing its utmost significance. Related subjects like "knowledge transfer," "knowledge generation," "management," and "artificial intelligence" surround the core, highlighting their significance and interconnectedness. The temporal gradient, transitioning from a blue hue in 2020 to a yellow hue in 2023, reveals the sequential emergence and progression of themes. The terms "distance education," "flipped classroom," and "tacit knowledge" surfaced earlier, while "e-learning effectiveness," "employability," and "organisational innovation" emerged more recently. The size of a node indicates the frequency and prominence of keywords, while larger nodes represent more prominent topics. The interconnections between the lines and the clustering of nodes highlight the presence of many elements together and the linkages between different themes, thus offering a holistic perspective of the study environment. This visualization is a valuable instrument for scholars and practitioners, providing valuable insights into the dynamic trends and evolving thematic priorities in higher education research. It captures the complexity and interconnectedness of contemporary academic discourse while also highlighting both well-established and emerging areas of interest.

4. FUTURE RESEARCH DIRECTIONS

Future research in knowledge management (KM) within higher education should prioritize stakeholder engagement, focusing on how collaboration among students, faculty, administrators, and industry partners enhances knowledge sharing and innovation. Investigating the role of organizational innovation in reshaping KM practices can reveal strategies for universities to improve academic performance and foster continuous growth. Additionally, exploring the impact of e-learning on KM, particularly in

Figure 2: Influential topics in the "period of 1998-2010"

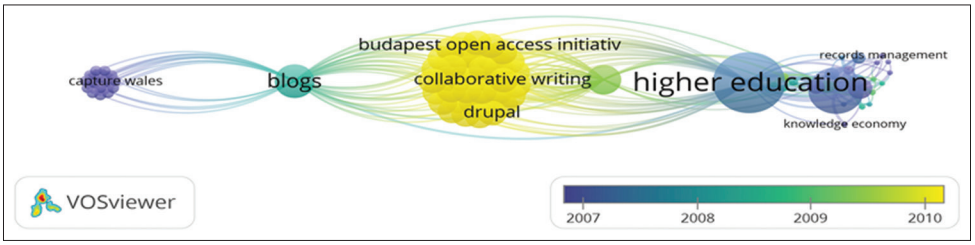


Figure 3: Influential topics in the "period of 2011-2019"

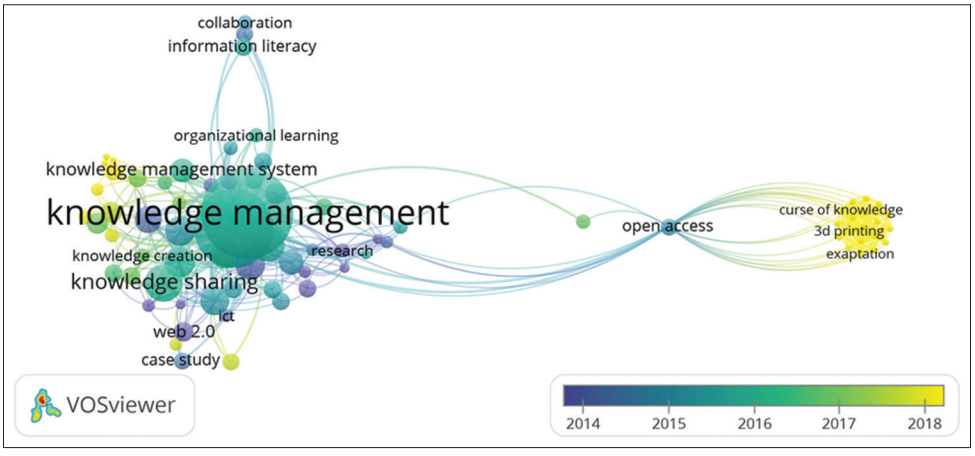
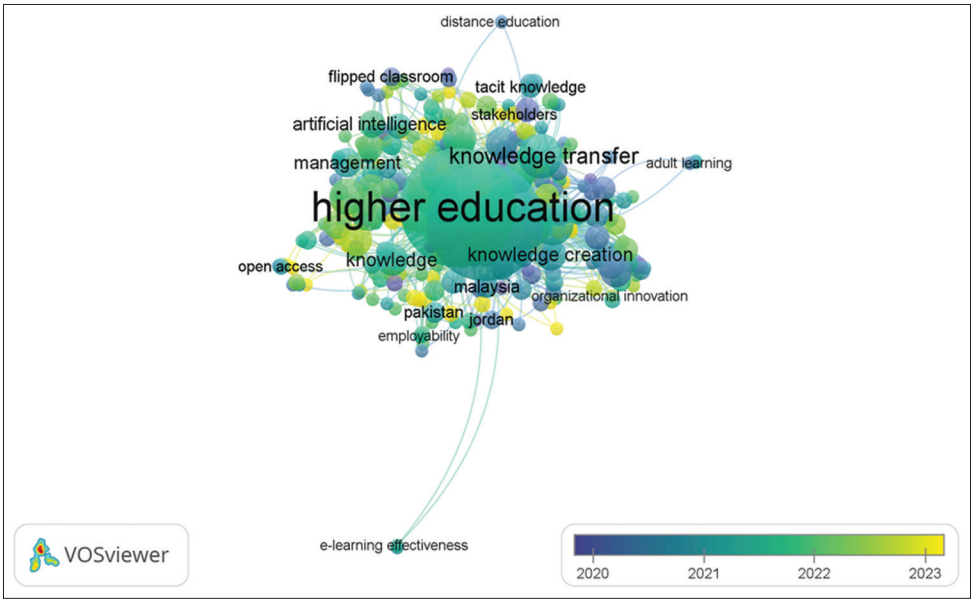


Figure 4: Influential topics in the "period of 2020-2024"



enhancing learning outcomes and institutional systems, is crucial. Integrating interdisciplinary approaches, such as leadership, psychology, and educational technology, offers further potential for innovation. Research should also address the alignment of KM with industry needs to boost graduate employability, ensuring that universities equip students with relevant skills. Embracing emerging technologies like artificial intelligence and machine learning can transform KM by streamlining operations, enhancing data analysis, and personalizing education. Cross-regional studies and comparative research will provide insights into diverse challenges and best practices, while analyzing KM's influence on student success, faculty productivity, and institutional efficiency can guide policymakers in refining strategies to elevate the overall educational experience.

5. CONCLUSION AND IMPLICATIONS

The VOS-viewer visualization of higher education research from 2020 to 2023 highlights "higher education" as the central and most interconnected theme, with surrounding topics like "knowledge transfer," "management," "artificial intelligence," and "e-learning effectiveness" reflecting evolving academic priorities. A noticeable shift emerges from early focuses on "distance education" in 2020 to recent interests in "employability" and "sustainability" by 2023. Despite these advancements, gaps persist, including underrepresentation of certain regions, limited exploration of tacit knowledge, and insufficient focus on adult learning and stakeholder engagement. Parallel analysis of knowledge management (KM) research traces its growth from foundational studies in the late 1990s to current intersections with AI and organizational innovation. While initial KM research centered on institutional processes, it has expanded to address broader social and economic impacts. Core themes like KM strategies, organizational learning, and technology integration remain vital, alongside emerging areas such as ethics and social media-driven knowledge sharing. Future research should adopt multidisciplinary approaches that integrate technology with innovative teaching, while reflecting diverse cultural contexts. This progression not only shapes current academic trends but drives transformative practices that enhance institutional performance, ensuring the long-term success of higher education in a rapidly evolving landscape.

This bibliometric study provides valuable insights for stakeholders in the higher education sector, offering several practical and academic implications. For academic institutions, the study presents a detailed understanding of critical knowledge management (KM) trends, enabling them to pinpoint priority areas for research and strategic investment. By recognizing the influence of KM on academic and administrative performance, institutions can design targeted KM programs aimed at enhancing teaching effectiveness, boosting student outcomes, and increasing research productivity. For researchers, this study serves as an essential reference, offering a comprehensive overview of the KM field and identifying influential authors and key publications. It highlights existing gaps in the literature, paving the way for innovative research that addresses pressing challenges and advances the field. Researchers can also use the insights from this study to align their work with emerging trends, increasing the likelihood of publication in high-impact journals and contributing to the academic discourse in meaningful ways. Moreover, the study emphasizes the importance of bridging academic and industrial perspectives. By addressing the identified gaps, scholars can develop solutions with both theoretical and practical implications, thereby driving progress in the KM domain. Matching research priorities with trends highlighted by leading journals not only strengthens the quality of contributions but also enhances the visibility and impact of future research efforts. Furthermore, this study reinforces the importance of effective KM strategies in higher education and promotes innovation across academic and administrative functions. It provides a roadmap for researchers and institutions to shape impactful KM practices, ultimately advancing the academic and practical relevance of higher education research.

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