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Challenges in implementing artificial intelligence in knowledge management processes

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Abstract
Artificial intelligence can be very much important for growth of any organization because it's a new trend which enhances the performance of participants in the organization. It's way of using machine power for betterment in problem solving, learning and decision making. Knowledge management is systematic may of managing the knowledge. Knowledge is everything in today's life its power of handling the information effectively. When knowledge and artificial intelligent combines, it create a synergic effect and enhance the performance of organization, it also help in facing the competition prevailing in the industry. Artificial intelligence can be added by some steps in the knowledge management process these are intelligent virtual assistants, natural language processing, knowledge recommendation system, knowledge validation and credibility assessment and predictive knowledge analysis. Knowledge management can implemented effectively with artificial intelligence it enhance the work efficiency. Artificial intelligence leads to transformation of input into output and improve the fundamental components of the system. The data is collected from secondary sources articles reports etc. It's not easy to adopt artificial intelligence easily in the organization there are different challenges faced in the knowledge management process like quality of data, knowledge acquisition, models of artificial intelligence, domain expertise etc. it's very important to identify these challenges properly so that it can be adopted easily. The combination of artificial intelligence and knowledge management create a very effectively enhance the various aspects of society like health, education, business, and other area of society. Artificial intelligence can help in generating new knowledge and used it in further decision making which help organizing that knowledge also if it organized in an effective it will leads to better development of the organization.

Keywords: Artificial intelligence, knowledge management, knowledge creation

Introduction
Combination of Artificial Intelligence (AI) and Knowledge Management (KM) holds tremendous potential to enhance various aspects of society, including "innovations, wireless networks, education, healthcare, businesses, and organizations". AI-powered systems can automatically gather and analyze large amounts of data from diverse areas, helping organizations to acquire knowledge faster and more efficiently which help in acquisition of knowledge
Artificial Intelligence (AI) "refers to the combination of human intelligence with machines that are programmed to think, learn and problem-solve like humans". The main purpose of AI is to perform tasks that typically needed human intelligence, like visual perception, speech recognition, decision-making, language translation, and more. Artificial intelligence based on computer learning and robotic. Chen, L., (2020) [9] the revolutionary process represents a bold vision for the future of education, where technology and AI become deeply intertwined with everyone's lives, leading to potentially transformative outcomes. However, implementing this approach may require significant changes in process of adopting artificial intelligence, infrastructure, and societal attitudes towards technology in education. Roll, (2016) [28] Viewing AI crates an input-process- output sequence which helps to understand fundamental components and operations of an AI system. The process involves transforming input data through various building blocks to generate meaningful output, which can be in the form of information or knowledge. Paschen, (2019) [23] it emphasizes the potential of AI in transforming vehicles and transportation systems to align with the sustainable

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development growths. It encourages stakeholders from different domains to work together to identify and implement the cultural changes required to achieve sustainability goals. Moreover, it underscores the need for ongoing development and exploration of AI applications to drive progress towards a more sustainable future. Di Vaio, (2020) [10]. Analytical AI focuses on cognitive intelligence, such as problem-solving, decision-making, and data analysis. Human-Inspired AI designed to mimic human-like intelligence, including natural language processing and understanding, pattern recognition, and learning from experience. Humanized AI incorporates emotional and social intelligence, enabling interaction and understanding of human emotions and social cues. Artificial General Intelligence (AGI) possesses human-level cognitive capabilities and can apply learning, and apply knowledge in different tasks, related to human intelligence. Artificial Super Intelligence (ASI), Hypothetical AI that surpasses human intelligence in every aspect, posing immense challenges and uncertainties. Haenlein, M., (2019) [15].

Knowledge Management Process
Now a day's knowledge can become very important resources for every organization. Knowledge can be information which becomes strength of every organization for better working. If it enhances the performance of organization that will leads to adopt the strategic strength for overcoming prevailing competition (Raewf, & Thabit, 2015) [27]. Knowledge management can be attained by three main themes that is knowledge creation, knowledge transfer and knowledge sharing. It's also found that knowledge sharing is information sharing which is generated during the process of creation, sharing is important for every organization for competing. (Mohammed *et al*. 2019) [20]. Knowledge management process can be affected by technology, socio organizational and individual. Knowledge management process in this includes "knowledge acquisition, knowledge creation, knowledge sharing and knowledge transfer". (Pinho 2012) [25]. (Ode 2020) [22] the knowledge management has a positive relation with innovative organizational performance when the knowledge generated, stored, diffused and applied leads to improve in the performance but knowledge diffusion is more efficient with the help of generation and storage. (Kaur, 2022) [17] there are different capabilities in academic affiliation which can be improved with the help of knowledge management process. It is to be showed if knowledge management implemented effectively then scholar's leads to international publication that will also help in performance improvement of academicians. (AlBadri, 2022) [2] Bloch chain technology will also improved performance when knowledge management integrated the staff, leadership and countries in middle gulf countries. These Bloch chains will mainly in the health care and banking knowledge sharing leads to social capital then it leads to innovation which ultimately increases the performance of women entrepreneurial. Social capital is factors which positively affect knowledge sharing which leads to increase the performance. Here social capital is a valuable asset which empowers the organization for further development. (Paudel *et al*. 2023) [24] the knowledge management has positive correlation with academic performance. Knowledge creation is highly correlated with innovation in higher education institution and knowledge transfer is correlated with interactive learning. Knowledge

management implemented effectively leads to improve the academic performance in educational institutions. (Prabhakar *et al*. 2018) [26] organizational environment also affect your implication of knowledge management, it support the knowledge management practices in higher education institutions that leads to improve the performance of academicians in these institutions (Alghail 2023) [3] knowledge protection is a very important aspect when you were using the knowledge sharing in higher education. If you protect your knowledge and manage then it leads to provide you the competitive edge and also leads to improve your performance. But higher education institutions were not comprehensively examining the knowledge protection of both the type tacit and explicit. (Momeni *et al*. 2011) [21] knowledge management process competencies positively affect the core competencies of organization. Along with whole process of knowledge management knowledge creation and knowledge protection affects more and core competencies of marketing and integration effected by knowledge management process significantly. (Wong, 2005) [34] small and medium scale organization having critical success factors which we need to consider while adopting knowledge management process. These factors are management "leadership and support, culture, IT, strategy and purpose, measurement, organizational infrastructure, processes and activities, motivational aids, recourses, training and education and human recourse management". (Migdadi, 2022) [19] knowledge management process directly cannot affect the influence the innovative capability in the organization, but innovative capability fully mediate knowledge management process and organizational performance. Here performance shows in improvement of existing product, processes and marketing by the effective knowledge management performance.

Artificial Intelligence and Knowledge Management Process
Artificial Intelligence (AI) and Knowledge Management (KM) complement each other holds tremendous potential to enhance various aspects of society, "including innovations, wireless networks, education, healthcare, businesses, and organizations". AI-powered systems can automatically gather and analyze vast amounts of data from diverse sources, helping organizations to acquire knowledge faster and more efficiently which help in acquisition of knowledge (Liebowitz, J. 2001) [18]. The algorithms can analyze complex problems, identify patterns, and suggest optimized solutions, enabling better decision-making and problem-solving capabilities. (Tsui, 2000) [32] AI-driven tutoring systems can personalize learning experiences, adapt to individual learner's needs, and provide real-time feedback, leading to more effective and engaging education. It can also assist in identifying the most optimal solutions based on historical data, predictive analytics, and machine learning algorithms, benefiting businesses and organizations in various domains. (Birzniece, I. 2011) [6]. AI can assist in organizing and structuring large knowledge repositories, making information retrieval faster and more accurate. It can also help create sophisticated models to understand trends, correlations, and insights from data. (Jallow, H., 2020) [16] AI can have significant impacts in these areas, and the technology continues to developing, we can predict even more advanced applications in context of KM. Some potential future applications of AI in KM include:

Intelligent Virtual Assistants: AI-powered virtual assistants can provide personalized support, answer queries, and assist in knowledge discovery, enhancing user experience and efficiency.

Natural Language Processing (NLP): Advancements in NLP can help AI systems understand human language better, leading to more seamless interactions between users and KM platforms.

Knowledge Recommendation Systems: AI can proactively recommend relevant knowledge to users based on their preferences, context, and behavior, promoting continuous learning and knowledge sharing. (Chatterjee, 2020) [7].

Knowledge Validation and Credibility Assessment: AI can help validate the credibility of knowledge sources and identify misinformation, ensuring that accurate information is disseminated within organizations.

Predictive Knowledge Analytics: AI can forecast knowledge gaps, emerging trends, and potential challenges, enabling organizations to be proactive in their knowledge management strategies. (Gacanin, 2019) [13], (Mansoori, 2020) [1].

Further considering Anklam's categorization, there are steps of development of artificial in knowledge management process. The fourth generation focuses on the consideration of knowledge as a capital factor and seeks to quantify it – thus strengthening the needs emerging in the second phase, while phase 3 elaborate the relation between company competitiveness and innovation. As can be seen, developed economic systems in the fourth and fifth generation of knowledge management search for an expression of the value of human resources that is increasingly being raised in company practice (Silva de Garcia, 2020) [30]. At the same time, it can be seen that, conceptual advances have taken place in the first three generations, and, since then, the possibilities of development, the consideration of human resources as a capital and its quantification and organizational application have come to the fore, constantly emphasizing the need for innovation (Bencsik & Filep, 2016) [5]. (Anklam, E. 2022) [4].

Research Methodology
Research methodology refers to the systematic process and set of techniques used to conduct research, gather information, and investigate a specific topic or question. Collecting data through articles and journals, which is a form of secondary data collection, involves gathering information from existing sources that have already been published. Conduct a comprehensive literature review to identify relevant articles and journals related to research topic. This involves searching databases, libraries, and academic repositories for peer-reviewed articles, research papers, reports, and other relevant sources.

Challenges in Adoption of Artificial Intelligences in Knowledge Management Process
When adopting artificial intelligence (AI) in the knowledge management process, there are specific challenges that organizations may encounter. These challenges can affect the successful integration of AI into knowledge management practices. Some of the key challenges include:

Data Compatibility and Integration: AI systems require data from various sources and formats to function effectively. Integrating existing knowledge management systems and data sources with AI technologies can be complex and may require data transformation and cleaning.

Lack of Data or Insufficient Data: AI models thrive on large amounts of high-quality data. In some knowledge management domains, there may be a scarcity of relevant data or insufficient historical data to train the AI models adequately. (Rubenstein-Montano 2001) [29].

Quality of Data: Inaccurate, outdated, or incomplete data can lead to biased AI models and incorrect knowledge management decisions. Ensuring data quality is crucial for the success of AI in knowledge management.

Knowledge Capture and Representation: Converting unstructured knowledge into a format that AI models can process can be challenging. Developing suitable representations and features for knowledge items may require significant effort. (Grover, 2001) [33].

AI Model Explainability: Many AI models, mainly deep learning models, are often considered black boxes make it complicated to understand the reasoning behind their outputs. This lack of explainability can be a concern in knowledge management, where insights need to be transparent and understandable.

Domain Expertise: Designing and deploying AI models in knowledge management requires expertise not only in AI but also in the specific domain. Understanding the context and nuances of the knowledge being managed is crucial for effective AI implementation.

Change Management and User Adoption: Introducing AI into the knowledge management process may face resistance from employees who may be unfamiliar with AI or fear its implications. Proper change management and user training are essential to ensure smooth adoption.

Ethical and Legal Considerations: AI usage in knowledge management may raise ethical concerns, such as data privacy, bias, and ownership. Compliance with relevant laws and regulations is critical, particularly if AI is handling sensitive or personal information.

Ongoing Maintenance and Upkeep: AI models require continuous monitoring, updating, and improvement to remain relevant and accurate. Organizations need to allocate resources for maintaining and supporting the AI system over time (Chen, 2021) [8].

Integration with Human Expertise: AI should complement human expertise in knowledge management rather than replace it entirely. Striking the right balance between AI-driven automation and human decision-making is a challenge.

Cost and ROI: Implementing AI solutions can be costly, and organizations need to assess the return on investment (ROI) carefully. The benefits of AI adoption should

outweigh the expenses associated with development and implementation (Dwivedi, 2021) [12].

Practical applicability

Artificial Intelligence (AI) has significant practical applicability in the field of knowledge management, where it can enhance the way organizations gather, store, organize, and utilize information. When we consider these challenges in the applicability of artificial intelligence it helps the education institution in organization of knowledge. It also help other organization like effective management and involvement of artificial intelligence leads to better decision making, further looking for new prospects in the industry. AI-powered search engines and information retrieval systems can understand natural language queries and retrieve relevant documents, articles, and resources quickly and accurately. This improves the efficiency of knowledge discovery within a vast amount of data.

Conclusion

Addressing these challenges requires a holistic approach that involves collaboration between AI experts, knowledge management professionals, and domain experts. A clear understanding of the organization's knowledge management goals and challenges is essential to identify the most suitable AI solutions and ensure successful adoption. Moreover, organizations should be prepared to adapt their processes and workflows to leverage the full potential of AI in knowledge management. The integration of artificial intelligence (AI) into knowledge management presents both promising opportunities and complex challenges. The organizations strive to harness the power of AI to enhance their knowledge management processes. They need to foster a culture of adaptability and learning, while also addressing ethical concerns and ensuring data security. Ultimately, the successful integration of AI into knowledge management hinges on the ability to harness its strengths while mitigating its challenges, driving the organization toward improved knowledge sharing, better decision-making, and sustainable innovation.

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