

The Impact of Technology on Knowledge Management

In the modern digital age, technology plays an essential role in knowledge management (KM). Technology revolutionizes how organizations capture, store, share, and leverage knowledge assets. As technology develops, it increases the effectiveness of KM in attaining its goals of achieving shared understanding, improving decision cycle effectiveness, enhancing mission and organizational performance, and creating agile learning organizations. This article shows the impact of technology on KM and how it transforms the way organizations utilize their intellectual capital.



The Role of Technology in Enhancing KM Practices

There are many benefits of technology in KM practices. “Technology is the tool that enables knowledge management to complete its different processes and provide its services to the target audience.”¹ Productivity is increased by streamlining access to knowledge and automating repetitive tasks. Decision-making is enhanced from real-time data providing insights for strategic planning and problem-solving. Innovation and learning are strengthened from KM programs being augmented by technology, which makes knowledge more accessible across departments and teams. This encourages cross-functional collaboration and knowledge sharing. “It can prevent employees from coming up with redundant solutions, minimize costly defects on the production line, and save valuable expertise from being lost.”²

A Survey of Different Types of KM Technology

Effective management of knowledge has become a paramount concern for organizations seeking to maintain a competitive edge. “The scientific age seeks to eliminate the burden of information and knowledge from human beings as well, leaving them with creative work and other intelligence.”³ A variety of technologies are leveraged to enhance KM outcomes:

- Document Management Systems (DMS) enable organizations to store, organize, and retrieve documents and files efficiently. DMS platforms include version control, access control, and workflow management features, which makes it easier for collaboration and maintaining document integrity.
- Content Management Systems (CMS) are designed to create, manage, and publish digital content, including text, images, and other multimedia. CMS platforms facilitate the creation of knowledge bases, intranets, and websites, which makes it easier for sharing and accessing information.
- Enterprise Search solutions enable organizations to locate information across various repositories quickly and efficiently. They use advanced search algorithms, natural language processing, and indexing techniques to provide accurate search results to users.
- Knowledge Bases and Wikis (ex. wikiHow) are collaborative platforms that allow users to create, edit, and access knowledge articles. These can be helpful for customer support by serving as a repository of information for FAQs and troubleshooting guides.

- Data Analytics and Business Intelligence (BI) tools help organizations gather valuable insights from data by analyzing patterns and trends. These tools are helpful for decision-making and knowledge discovery.
- Artificial Intelligence (AI) and Machine Learning (ML) are revolutionizing KM by automating processes such as content tagging, recommendation engines, and sentiment analysis. Some examples of AI and ML are ChatGPT, customer service chatbots, virtual assistants, and data analysis. “Emerging AI capabilities such as natural language processing and natural language generation can automatically index and combine content across disparate platforms.”⁴
- Social Collaboration Platforms promote knowledge sharing by facilitating communication and collaboration which include features like chats, discussion forums, online communities, and file sharing.
- Knowledge Graphs enable organizations to model complex relationships and better understand the presented data. Knowledge graphs don’t just help organizations model what they know, they also aid in search and retrieval, and can even infer new knowledge. While they are commonly used in many fields, one example is in healthcare where diseases are diagnosed, and drug interactions are identified.

Case Study Demonstrating the Successful Adoption of KM Technology

“Today’s organizations not only need to cope with rapid changes in technologies, markets, and industries, but also need to stand resilient to other kinds of unexpected external shocks.”⁵ An



example of a business that has harnessed KM technologies is IBM. The COVID-19 pandemic affected learning behaviors of technical sellers because they had to adapt to new ways of working and collaborating, especially because in-person working conditions were not possible during that time. Due to the added costs of the pandemic, training budgets had to be reduced. However, employees continued to utilize the learning systems and invest their time in personal growth. With lots of flexibility and utilization of tools such

as AI and the Cloud, IBM was able to stay on top of KM trends during the COVID-19 pandemic. The more knowledge employees have, the more KM initiatives continue to drive innovation, improve decision-making, reduce costs, and enhance overall organizational performance.

Future Trends in KM Technology

The quantity of data produced every day is experiencing a swift and continual surge. “Advanced KM processes and systems will recognize a user’s responsibility and mandates and will enable them to perform and deliver in the most intuitive and seamless way possible.”⁶ With technology continuing to evolve, there are four new trends that shape the way knowledge is managed:

- Artificial Intelligence (AI) and Machine Learning (ML) are revolutionary for KM by enabling systems to organize and categorize information, as well as understand context, sentiment, and user preferences. Imagine a KM system that can suggest relevant

documents, provide insights, and predict future knowledge needs based on individual or organizational patterns.

- Natural Language Processing (NLP) is another tool that makes KM more user-friendly by having users interact with knowledge databases using natural language queries. This makes it easier to locate information quickly and efficiently.
- Augmented and Virtual Reality (AR/VR) technologies display information through a virtual library in 3D, which makes it possible to collaborate with colleagues in a virtual workspace. With AR and VR, knowledge sharing, and collaboration can occur on a global scale as well.
- Blockchain, which forms the basis of cryptocurrency transactions, can also be used for knowledge verification to verify the authenticate the ownership of knowledge assets. Security and privacy are enhanced by focusing on robust encryption to ensure that only authorized individuals can access specific knowledge assets.

This article has highlighted the symbiotic relationship between technology and KM that is revolutionizing how organizations harness their intellectual capital. To truly tap into the transformative power of KM, embracing these advancements is not just beneficial – it's essential. As we move forward in the digital era, let's be proactive in integrating these tools to maximize our intellectual assets and remain at the forefront of innovation.

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Notes

1. Multiple Authors, "What is the Role of Technology in Knowledge Management," 2023, <https://todayfounder.com/what-is-the-role-of-technology-in-knowledge-management>.
2. Catherine Heath, "Five Real Life Examples of Knowledge Management Success You Can Learn From," February 11, 2020, <https://document360.com/blog/5-real-life-examples-of-knowledge-management-success-you-can-learn-from/>.
3. Multiple Authors, "Integrating artificial intelligence for knowledge management systems – synergy among people and technology: a systematic review of the evidence," May 23, 2022, <https://www.tandfonline.com/doi/full/10.1080/1331677X.2022.2058976>.
4. Multiple Authors, "Knowledge Management: Creating Context for a Connected World," May 15, 2020, <https://www2.deloitte.com/us/en/insights/focus/human-capital-trends/2020/knowledge-management-strategy.html>.
5. Multiple Authors, "The Learning System at IBM: A Case Study," December 14, 2020, <https://workofthefuture.mit.edu/wp-content/uploads/2020/12/2020-Working-Paper-Qin-Kochan2.pdf>.
6. Zach Wahl, "Knowledge Management Trends in 2023," January 24, 2023, <https://enterprise-knowledge.com/knowledge-management-trends-in-2023/>.



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