GENERATIVE AI AS SOURCE OF CHANGE OF KNOWLEDGE MANAGEMENT PARADIGM

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The launch of ChatGPT in November 2022 revolutionized the accessibility of generative Artificial Intelligence, enabling conversational interactions. Extensively tested by millions, its influence on management has become a subject of debate. In the digital revolution, generative Artificial Intelligence possesses transformative potential, automates tasks, delivers novel goods and services, and generates valuable insights. However, challenges such as data quality, human oversight, and ethical considerations arise in the context of digital transformation. This research employs qualitative research methods to examine the current understanding of generative Artificial Intelligence and predict its influence on the knowledge management within organizations. By conducting a survey among industry experts, this paper aims to provide valuable insights into the integration of generative Artificial Intelligence and its implications for the knowledge management paradigm.

INTRODUCTION

Artificial intelligence (AI), increasingly, is naturally integrated into people's daily lives, finding an ever-widening spectrum of applications in products or services (Stoimenova & Price, 2020). It often goes unnoticed by users who are not aware of their interaction with AI (Steimer & Conick, 2018). Defined in a variety of ways, it focuses on a system's ability to correctly interpret data so that it learns from it and uses it to achieve specific goals and tasks through flexible adaptation (Kaplan & Haenlein, 2019). AI is described as a system capable of performing human tasks like making decisions or solving complex problems (Kar, 2016; Russell & Norvig, 1995), as well as making predictions about many phenomena and processes (Yang, 2022). By analyzing, for example, a person's facial expressions, the language they use, and the course of their interactions with them, AI systems can predict human needs (Gupta, 2017). AI, therefore, refers to programs, algorithms, systems, and machines that mimic human intelligence (Shankar, 2018) and exhibits a similar ability to mimic human responses (Shubhendu & Vijay, 2013).

As a multidisciplinary scientific field, encompassing robotics, neural networks, machine learning, image processing, and natural language processing, it has become a key component of digital transformation (Duan et al., 2019; Bilan et al., 2023) and one of the most important technologies forming the fourth industrial revolution (Schwab, 2016). Inspired by humans, it is different in practice. It has shifted the paradigm from an expert systems approach to one based on deep learning and big data (Mullainathan & Spiess, 2017). It has impacted our personal lives, but it has also fundamentally changed the way companies make decisions and interact with their internal and external stakeholders (Kaplan & Haenlein, 2019). Therefore, it should be developed to "respect, serve and protect people's physical and mental integrity, sense of personal and cultural identity and meet their basic needs" (AI HLEG, 2019)

Initially considered in terms of scientific research (Merrill & Schillebeeck, 2019), AI has now moved well beyond the realm of automation. The knowledge it possesses is repeatedly considered greater than that possessed by humans (Crawford & Calo, 2016), becoming a fundamental component of business growth (Markiewicz & Zheng, 2018). This emphasizes its importance in terms of business decision support. Recent developments in the development of AI are attributed to the significant growth in data volume and availability, the exponential increase in computing power, and the growth of increasingly complex and multifaceted statistical techniques' (Darwiche, 2018), which has accelerated the development of generative AI and its democratization processes.

Generative AI can be defined as an AI system, based on deep learning algorithms, that uses large data sets to create content and information that did not exist before (Nigram et al., 2021). Generative AI, unlike traditional artificial intelligence systems that are only able to analyze data and draw conclusions based on it, can also generate images, texts, graphics, paintings, and videos as if they were prepared by a human. More recently, it has also been granted copyright for its own soundtracks (Hewahi et al., 2019). In doing so, it can generate material with a highly realistic and consistent character (Sætra, 2022). Because of this, generative AI is an effective tool for businesses aiming to develop fresh, cutting-edge goods and services. However, generative AI is dependent on data and a data-based training process to generate new content (Terwiesch, 2023). This raises numerous questions about the actual level of creativity of the results of this work. At the same time, however, the notion of so-called

artificial creativity interpreted as the ability of an AI system to *"achieve or simulate behaviors that would be considered creative in humans"* was already pointed out in 2018 (Wiggins & Forth, 2018). The emergence of generative artificial intelligence has highlighted the scale and scope of the potential further use of AI in various fields. Organizations are only just beginning to discover its real significance, especially in the context of building competitive advantage.

The multitude of generative AI tools currently available (e.g., ChatGPT, Bard, Midjourney, Dall-E2, Diffusion, or DreamUp), the announcement of more to come (Alibaba, Baidu, and Meta are talking about them), as well as the ever-expanding spectrum of functionalities they offer, arouse as much admiration as doubts, including in the context of knowledge management. Already hailed as a disruptive technology for many sectors and industries today (Haque et al., 2022), it nevertheless creates a few challenges for possible areas of uptake and implementation (idea, scope, goals, etc.), including in the evaluation of existing paradigms.

Although generative AI technology is developing rapidly, expanding the context and scale of its implementation (Helberger & Diakopoulos, 2023), it is still in its infancy (Haque et al., 2022), resulting in a large research gap. This article aims to provide a preliminary analysis of the current level of knowledge of this technology, with a prediction of its impact on knowledge management processes in organizations.

It seems that generative AI, like advanced technological tools, at earlier stages of human development (computer, internet, social media, or tablet, etc.) has the potential to be naturally accepted and adopted. However, this requires an awareness of what the technology is and how to use it in organizations effectively and efficiently.

LITERATURE REVIEW

Generative AI as a Catalyst of Digital Transition

When a new technology or business model enters the market and disturbs the status quo by offering a less complex, more affordable, and more readily available substitute for already available goods or services, this is known as a disruptive innovation (Christensen, 1997). Disruptive innovation's primary trait is its initial focus on niche markets underserved by current goods or services. When the disruptive technology or business model develops and becomes more popular, it eventually supplants existing goods and services (Christensen, 1997).

AI is emerging as a crucial technology that can assist firms in staying ahead of the curve in the age of digital transformation. As a ubiquitous technology, it is subject to continuous improvement and is becoming a contributor to further innovations (Brynjolfsson & McAfee, 2014; Bencsik, 2021). Considered a general-purpose technology and included in the so-called Big Four technologies (AI, Internet of Things, cloud, and mobility), it is recognized as one of the key pillars of digital transformation. When implemented into business models, it creates entirely new opportunities to scale them (Poniewierski, 2019). AI is not a separate and fragmented technology that develops in isolation and disconnected from market practice. On the one hand, it leads to modifications of existing models (e.g., adaptation versus total transformation), while on the other hand, it introduces completely new and different models from the ones we are used to. Nowadays, business perceives AI from the perspective of smarter

products, smarter services, and increasingly automated processes. Unfortunately, there are still many companies trying to apply AI to outdated business strategies or inadequate processes (Marr, 2020).

The impact of the fourth industrial revolution on business has most often been seen as a shift from the simple digitalization that characterized the third industrial revolution, towards more complex and multifaceted forms of innovation, using an ecosystem of different technologies, including AI, in a different way than before (Schwab, 2016). This process is intensified by the emergence of generative AI, which can significantly influence the further course of digital transformation processes (dynamics, directions of change, perspectives, and level of complexity). It can revolutionize existing business models and implemented strategies, thanks to its unique potential. Because of this, generative AI is an effective tool for businesses aiming to develop fresh, cutting-edge goods and services.

In a business environment that is changing quickly, generative AI can, far more than before, improve organizational performance and give a competitive advantage by automating repetitive processes and producing new insights. For instance, generative AI can be applied to create new goods and services, automate customer support, and enhance corporate procedures (Chui et al., 2018).

As part of the digital transition, generative AI offers several important advantages, multiplying the benefits of using AI as such. The improvement in business processes is one advantage. With generative AI, routine operations such as data entry and annotation, for example, as well as report generation, document review, and analysis, may be automated, freeing staff to work on more strategic duties like innovation and client engagement (Merrill & Schillebeeck, 2019; Kedziora, 2022). Generative AI is also able, more than ever before, to take over the daily, tedious, and repetitive duties of employees (Burger et al., 2023), providing real support for them and allowing them to become more involved in more complex activities, including those of a creative or strategic nature.

The ability to make better decisions is another advantage of generative AI. Generative AI can help businesses make better-informed decisions, such as product development and market analysis, by creating fresh insights and predictions based on existing data (Agogino et al., 2020; Letkovsky et al., 2023). At the same time, it dramatically reduces the risk of human error, due, for example, to fatigue or distraction). It provides reproducible results, assuming comparable parameters (input data) (Wu et al., 2019). Also, the use of generative AI may open new economic prospects. Businesses can tap into new markets and acquire a competitive edge in a market that is changing quickly by utilizing generative AI to develop new goods and services (Mondejar et al., 2021), demand forecasting (Kolková & Ključnikov, 2022) as well as customer service. This will lead to a gradual transformation of different industries and market sectors, especially given that generative AI can create new data from existing data, rather than just analyzing it. The capabilities of generative AI are currently recognized as impressive and in many areas superior to current human capabilities.

Generative AI can therefore significantly support development if it is used in a legitimate, responsible, and ethical manner. However, it is important to be aware that the opposite is also possible, where AI-generated content is used indiscriminately, without respect for third-party rights, or for unwarranted purposes (Lim et al., 2023).

Even with the advantages, applying generative AI to the digital transition comes with several serious difficulties. The quality of the data is one issue. Organizations must ensure their

data is correct, pertinent, and current since generative AI needs a lot of high-quality data to work correctly (Agogino et al., 2020). Unfortunately, generative AI does not always currently provide reliable and truthful information. It is also good at producing content that lacks any legitimate basis (Mollick & Mollick, 2022) or is laden with human biases, which increases its level of bias (Bender et al., 2021; Haluza & Jungwirth, 2023). This is because it does not have the typical ability to assess the reliability of the data (Sallam, 2023), as well as not always understand the meaning and essence of the words it processes (Gao et al., 2023), which further affects the credibility and reliability of the content and materials generated. It is also accused of having limited analytical and critical thinking capabilities (Rudolph et al., 2023). At the same time, it is worth noting that humans tend to take AI-generated information as persuasive and authoritative (Krügel et al., 2023; Zhou et al., 2020), and this can lead to over-reliance on this technology and intensify the process of perpetuating stereotypes or biases present in the data on which generative AI was trained. Like other AI models, those based on generative AI can collect and store data, which raises significant concerns about user privacy (Eliot, 2023) and cyber security. It also raises controversy about the level of creativity and the potential risk of copyright infringement if the generated material (text, graphics, images) resembles the original too closely (Karim, 2023). Moreover, because the results it generates are inexplicable (Bass, 2022), another difficulty is the need for humans to supervise things. Organizations must make sure that their algorithms are being trained on the relevant data and that the output is accurate because generative AI is only as good as the data it is trained on (Crawford & Calo, 2016). The use of generative AI raises ethical issues as well. For instance, generative AI can be employed to fabricate false information, assume the persona of another, and even produce deep fakes. It also raises questions in the dimension of the consequences of replacing human labor with systems based on generative AI. Companies must ensure that generative AI complies with ethical standards, laws, and social conventions. And while generative AI models generate several new challenges, this still definitely does not depreciate its potential to create novel content and materials (Audry, 2021).

The most well-known generative AI application is ChatGPT. It is a sizable language model that employs deep learning techniques to respond to natural language (NLP) inquiries that resemble those of humans - responses in a conversational model (Radford et al., 2019; van Dis et al., 2023). Launched by OpenAI on 30 November 2022, it has allowed the technology to be democratized, allowing people to interact with it in a conversational way. It has become the fastest-growing app reaching 100 million users within just two months of its launch (Hu, 2023). Its great strength is that instead of predicting or forecasting the correct or incorrect answer based on input, as AI has done so far, it generates its output based on its user's query, based on a trained model. Based on this, it combines words to form sentences and paragraphs based on what others have said on the topic, and its output takes on an innovative character, often also considered creative (Crawford et al., 2023). It uses large amounts of data, including those published in books, articles, and websites (Scharth, 2022), to first understand, and interpret user commands and questions and then generate optimal answers to them (Lund & Wang, 2023), which is important for evaluating its effectiveness (Kasneci et al., 2023). This is because it provides an opportunity to better understand the vocabulary relations of the language and the context in which they are embedded (Wang et al., 2023).

The versatility of ChatGPT, already at an early level of its development, is evident in its use in various applications. It generates human-like responses, in real-time, with the ability to

adapt and scale them, to the actual expectations of users, which creates opportunities to be proactive with it and build on this to gain a market advantage. In doing so, however, it is worth noting that this process is not satisfactory enough in languages other than English (Bang et al., 2023).

Some essential characteristics of ChatGPT make it a potentially disruptive innovation, such as its capacity to learn from vast volumes of data and produce precise answers to intricate inquiries (Kaplan & Haenlein, 2019; Radford et al., 2019). Due to its capacity to deliver quicker and more accurate answers to business queries, it has the potential to be a revolutionary breakthrough in the management field.

The capacity of ChatGPT to democratize access to management insights is one of its main benefits. ChatGPT can be viewed and used by anybody with an internet connection, unlike conventional management systems that demand substantial training and expertise (Kaplan & Haenlein, 2019). Via the provision of a less expensive, less complicated, and more easily obtainable substitute for current goods and services, this has the potential to disrupt the market for management systems as it stands (Kaplan & Haenlein, 2019).

The capacity of ChatGPT to improve over time through continuous learning is another benefit. ChatGPT can increase its accuracy and efficacy by learning from a lot of data and user interactions, eventually replacing traditional management systems (Radford et al., 2019).

ChatGPT could significantly impact the field of management. ChatGPT can upend the current market and open fresh prospects for innovation by democratizing access to management insights and offering a less complex and more approachable substitute to conventional management systems (Kaplan & Haenlein, 2019). By offering a fresh stream of training data and enhancing the precision of business inquiries, ChatGPT can also improve the performance of current management systems (Radford et al., 2019). However, using ChatGPT also comes with several difficulties, such as the requirement to guarantee that the generated responses are impartial, truthful, and ethical (Zellers et al., 2019). Also, careful monitoring of ChatGPT deployment in management is required to prevent its users from replacing human workers.

In the digital revolution, generative AI has the potential to be a game-changer by delivering novel goods and services, automating repetitive processes, and producing fresh insights. Data quality, the necessity for human oversight, and ethical issues are only a few of the fundamental difficulties associated with employing generative AI in digital transformation. Businesses need to carefully analyze these issues and create plans that maximize the advantages of generative AI while lowering the hazards.

RQ 1. Does the use of generative AI create a competitive advantage for the organization?

RQ 2. What opportunities are created by the use of generative AI in an organization, including in the context of knowledge management?

RQ 3. What risks might arise from the use of generative AI in an organization, including in the context of knowledge management?

Paradigms for Knowledge Management

Knowledge management is crucial for organizations as it enables them to leverage their collective knowledge, promote innovation, and enhance decision-making processes (Earl, 2001; Boiko et al., 2021). The knowledge management paradigm in organizations significantly

affects organizational performance, improving decision-making, productivity, and creativity; they can improve their competitiveness and obtain a sustained competitive advantage by successfully developing, capturing, and applying knowledge (Nonaka, 1994).

Several important theories have been developed in the field of knowledge management. The SECI Model, developed by Nonaka and Takeuchi (1995), describes the four modes of knowledge conversion: Socialization, Externalization, Combination, and Internalization. Socialization involves the sharing of tacit knowledge through direct interaction, while externalization is the process of articulating tacit knowledge into explicit forms. Combination refers to the integration of explicit knowledge, and internalization involves the assimilation of explicit knowledge into tacit knowledge. Generative AI impacts the SECI Model by enabling the automation of knowledge conversion processes. Through natural language processing and machine learning algorithms, AI can assist in capturing and codifying tacit knowledge (Brynjolfsson et al., 2023), facilitating the externalization and combination of knowledge. Additionally, AI-powered chatbots and virtual assistants can enhance socialization and internalization processes by providing personalized and context-specific knowledge support (Pavlik, 2023).

Polanyi's Tacit Knowledge Theory (1958) posits that there is a type of knowledge called "tacit knowledge" that is difficult to articulate explicitly but plays a significant role in practical expertise and decision-making. It emphasizes the idea that much of our knowledge is implicit, residing within individuals' minds and experiences. Effectively capturing and disseminating tacit knowledge, which is the knowledge that is challenging to codify and express, such as abilities, knowledge, and experience, is a challenge (Nonaka, 1994). Establishing a culture of openness and trust where staff members feel comfortable sharing their knowledge and skills is necessary for capturing and disseminating tacit knowledge (Grant, 1996).

AI affects Polanyi's Tacit Knowledge Theory (1958) by providing tools and algorithms that can analyze vast amounts of unstructured data (Dwivedi et al., 2023) and identify patterns or insights that may represent tacit knowledge (Brynjolfsson et al., 2023; Korzynski et al., 2023). Through machine learning and natural language processing, AI can help uncover hidden knowledge embedded within text, images, or audio, making it more accessible and facilitating its transfer and utilization within organizations.

Wenger's Communities of Practice theory suggests that learning and knowledge creation occur within social contexts where individuals with shared interests come together, interact, and develop a collective identity. These communities are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly to foster collaboration, knowledge sharing, and expertise development (Wenger, 1998).

AI affects Wenger's Communities of Practice theory by providing intelligent collaboration platforms and knowledge management systems that leverage natural language processing, machine learning, and data analytics. AI can facilitate the discovery of relevant communities, match individuals with similar interests, and recommend resources or experts within a community. AI-powered tools can also enhance knowledge sharing by providing personalized recommendations, answering questions, and facilitating interactions within communities (Paul et al., 2023). Overall, AI enhances the efficiency, accessibility, and connectivity of communities of practice.

Davenport and Prusak's Knowledge Management Enablers propose five key factors that support effective knowledge management within organizations: culture, technology, structure,

measurement, and people (Davenport & Prusak, 1998). These enablers emphasize the importance of organizational culture, supportive technology infrastructure, appropriate structure, meaningful measurement metrics, and knowledgeable employees.

AI affects Davenport and Prusak's theory by offering advanced technologies that enhance each of these enablers. AI-powered systems can analyze and interpret organizational culture, identifying knowledge-sharing norms and facilitating a culture of collaboration. Through AI, organizations can leverage intelligent technologies and tools to capture, store, and disseminate knowledge more efficiently, thus improving technology enablers. AI algorithms can assist in structuring knowledge repositories, extracting relevant information, and providing personalized knowledge access (Arun Kumar et al., 2023; Guo et al., 2020). AI also plays a role in measurement by enabling the analysis of large datasets, identifying knowledge gaps, and evaluating the impact of knowledge management initiatives (Korzynski et al., 2023). Lastly, AI enhances the role of people by augmenting their expertise, providing intelligent recommendations, and enabling seamless collaboration across teams and individuals.

These theories provide frameworks for understanding and managing knowledge within organizations and generative AI has a profound impact on these theories by augmenting knowledge creation, capturing and codifying tacit knowledge, facilitating knowledge sharing and collaboration within communities, and enabling intelligent knowledge management systems. Generative AI technologies automate knowledge processes, analyze unstructured data, provide personalized recommendations, and enhance knowledge organization and measurement (Arun Kumar et al., 2023; Guo et al., 2020; Newman et al., 2022; Stuermer et al., 2017). The integration of generative AI into knowledge management practices has the potential to revolutionize how organizations create, share, and utilize knowledge.

Several knowledge management paradigms have been proposed over the years, each offering a different perspective on how knowledge should be managed within organizations. Codification Paradigm focuses on converting knowledge into explicit and codified forms that can be easily shared, stored, and accessed. It emphasizes the creation of knowledge repositories, databases, and documents to capture and disseminate knowledge throughout the organization. The codification paradigm often relies on technologies such as knowledge bases, intranets, and content management systems (Nonaka & Takeuchi, 1995). Personalization Paradigm emphasizes the tacit nature of knowledge and the importance of personal interactions (Nonaka & Toyama, 2015). It recognizes that knowledge often resides in the minds of individuals and is best shared through direct communication, socialization, and collaboration. This paradigm emphasizes the use of tools and platforms that facilitate knowledge sharing among employees, such as social networks, communities of practice, and collaborative tools (Nonaka & Toyama, 2015).

The social paradigm of knowledge management emphasizes the social nature of knowledge creation, sharing, and application. It recognizes that knowledge is embedded in social relationships, networks, and communities. This paradigm emphasizes the importance of fostering a culture of knowledge sharing, encouraging collaboration, and leveraging social technologies to facilitate knowledge exchange and co-creation (Wenger et al., 2002).

The networked paradigm views knowledge as a dynamic and interconnected system. It emphasizes the importance of building networks and relationships both within and outside the organization to access diverse sources of knowledge. This paradigm focuses on creating and

leveraging networks, partnerships, alliances, and ecosystems to enhance knowledge sharing, learning, and innovation (Kimble et al., 2001; Oliinyk et al., 2021).

Knowledge Management with Generative AI

Knowledge management has become a crucial component of digital transformation strategies for firms looking to achieve a competitive advantage in the age of Industry 4.0. The process of developing, capturing, sharing, and using knowledge to improve organizational performance is known as knowledge management (Alavi & Leidner, 2001). In the field of knowledge management, AI has become a potent tool. Generative AI is one up-and-coming area of research. The potential for generative AI to alter the knowledge management paradigm is examined in this research.

AI systems, as mentioned earlier, that can produce new content, such as text, images, or music, based on data already present are referred to as generative AI systems. Instead of using rules and algorithms like standard AI, generative AI learns patterns from vast datasets and produces new content based on those patterns (Radford et al., 2021). Applications for generative AI range from chatbots to content generation to image and video synthesis.

Generative AI has the potential to significantly impact the knowledge management process in organizations. It can enhance various stages of the knowledge management cycle, including knowledge creation, capture, storage, organization, dissemination, and application. Generative AI can assist in knowledge creation by automatically generating new content, such as reports, articles, or even creative works. It can analyze large amounts of data, identify patterns, and generate insights or recommendations, augmenting the knowledge-creation process (Korzynski et al., 2023). Knowledge management rapidly uses AI to automate repetitive operations and extract insights from massive databases. Generative AI can facilitate knowledge capture by automatically extracting relevant information from various sources, such as documents, emails, or audio recordings. Generative AI has enormous promise, particularly in generating new information and insights from current data. It can identify key concepts, extract important details, and convert unstructured data into structured knowledge, making it easier to capture and store valuable information. Generative AI can improve knowledge storage by providing automated tagging, categorization, and indexing of knowledge assets. It can analyze the content, identify keywords, and assign appropriate metadata, making it easier to organize and retrieve knowledge when needed. Generative AI can support knowledge organization by clustering similar information, identifying relationships between different knowledge assets, and suggesting taxonomies or ontologies. It can help create knowledge maps, visualizations, or knowledge graphs, enabling better understanding and navigation of organizational knowledge. Generative AI can enhance knowledge dissemination by providing personalized and context-aware recommendations (Arun Kumar et al., 2023). It can analyze user preferences, behavior, and knowledge needs to deliver relevant content or expertise. Chatbots powered by generative AI can also assist in answering questions, providing on-demand information, and facilitating knowledge sharing within the organization. Finally, generative AI can augment knowledge application by assisting in decision-making processes. It can provide predictive analytics, simulate scenarios, or generate alternative solutions based on existing knowledge. By leveraging generative AI, organizations can make more informed decisions, optimize processes, and drive innovation. AI applications in knowledge management include

decision support, social networking, expertise placement, and content management (Becerra-Fernandez & Sabherwal, 2014).

Generative AI can transform knowledge management completely by generating new information and insights from current data. It can create new knowledge to improve organizational performance by examining vast datasets to find patterns and links that may not be immediately obvious to humans. Moreover, generative AI can automate the production of fresh content, such as reports or presentations, saving employees' time and allowing them to concentrate on more imaginative and strategic activities. It can also provide personalized and context-aware recommendations (Arun Kumar et al., 2023).

Generative AI has a lot of potential to transform the knowledge management paradigm. Generative AI can transform knowledge management by extracting new knowledge and insights from current data, automating repetitive operations, and producing fresh and inventive goods and services. However, many things could be improved by using generative AI in knowledge management, such as the quality of the data, the requirement for human oversight, and ethical issues. Businesses need to carefully analyze these issues and create plans that maximize the advantages of generative AI while lowering the hazards. Generative AI can potentially be a potent tool for enhancing organizational performance and establishing a competitive edge in a market undergoing fast change.

This process should be considered from the point of view of the generative implications of AI and its impact on knowledge management processes at the societal level (macro level e.g. disinformation policy, manipulation, including unfair competitive struggle), on individual market sectors or groups of organizations (meso level – the takeover of human-created content within individual market sectors while marginalizing the role of the original creators), and on individual market actors considered on an individual basis (micro level – e.g. cognitive atrophy) (Sætra, 2022). This is influenced by both the characteristics of the technology (e.g., the convenience of use; the intuitiveness of solutions based on it; the security, including the security of data; the pleasure felt in using it), the characteristics of people using it (e.g., demographic characteristics, openness to the technology, subjective sense of effectiveness or perceived benefits, behavioral inertia), and situational factors directly accompanying the knowledge management and decision-making process.

Generative AI can influence management processes at three levels: strategic (e.g., data collection and analysis, facilitating the generation of suggestions that can guide evaluations), functional (e.g., improving customer service), and administrative (e.g., improving working time organization) (Korzynski et al., 2023). In doing so, it is worth noting the paradoxes described by Lim et al. (2023) related to the development of generative AI and its perception, which may significantly affect the further uptake of this technology at each of the levels mentioned:

- *"Generative AI is a 'friend' yet a 'foe'".*
- *Generative AI is 'capable' yet 'dependent'*
- *Generative AI is 'accessible' yet 'restrictive'*
- *Generative AI gets even 'popular' when 'banned'"*

This may lead to the formation of a new paradigm based on, different from existing, forms of collaboration and partnership between humans and artificial intelligence (Jarrahi et al., 2023; Zhou et al., 2020) (collaborative AI with model Human-in-the-Loop versus collaborative AI with model Human-out-of-the-Loop). This will be manifested in any form of co-creation based

on both the integrated combination of human and technological creativity and the autonomous creativity of each party (Zhou et al., 2020) while considering their unique characteristics (specific only to them). The boundary of human substitutability for AI in knowledge creation and decision-making may therefore change (Shrestha et al., 2019). Understood in this way, the collaborative effect of human and generative AI requires mutual acceptance of each other's comments and suggestions, creating a space for each party in this interaction to interact more and more and reposition the technology in this process. It can therefore be assumed that generative AI, although it will naturally influence changes in the labor market, will at the same time not completely replace human labor, but rather be integrated with it. This will allow it to complement human decision-making processes rather than replace them (Agrawal et al., 2019). However, it is not obvious when the models for such collaboration and the associated subsequent paradigms will be shaped (Muller et al., 2022). Indeed, this requires an analysis of the potential scope of transformation regarding the necessary skills and competencies of employees and managers.

RQ 4. Which areas/functions of an organization's operations do generative AI appear to impact most strongly?

RQ 5. How do we implement generative AI into the organization's strategy, including in particular knowledge management strategy?

RQ 6. Does the effective and ethical use of generative IS require skills and competencies from employees/managers, especially in the sphere of knowledge management? If so, which ones?

RQ 7. Will the dynamics of collaboration between people in teams using generative AI change? Instead of 'wasting time' in meetings and (HLEG) exchange of ideas, will it be better to chat?

METHODS

The issue of the use of generative AI tools and models in the context of the Knowledge Management System has been the focus of Ritala (Ritala et al. 2024). An analysis of the level of use of ChatGPT (GenAI) in knowledge work was carried out to develop four ways in which knowledge workers interact with this technology. Mariani & Dwivedi (2024), on the other hand, analysed the importance of GenAI as a catalyst for innovation processes (research with leading innovation management researchers based on Delphi methodology). An analysis of the opportunities and challenges of using GenAI in the context of knowledge work (knowledge creation, knowledge storage, knowledge sharing and knowledge application) was conducted by Benbya H., Strich, F., & Tamm T. (2023). Using the Computer-Assisted Self-Interviewing technique we conducted 12 interviews: 11 with field experts from Poland and 1 with ChatGPT. Our human respondents were selected through purposive sampling techniques, based on their research and work experience. We invited female and male experts from Kozminski University and Jagiellonian University, and organizations such as DigitalPoland Foundation, Google, Humanities Institute and Deviniti. One of the experts invited to complete the survey questionnaire decided to do it anonymously, *see Table 1*.

Table 1. Characteristics of the respondents

Code	Gender	Position	Organization
R1	Male	Senior researcher	Kozminski University
R2	Female	Senior researcher	Kozminski University
R3	Male	Senior researcher	Jagiellonian University
R4	Male	Director	Humanities Institute
R5	Male	Director	DigitalPoland Foundation
R6	Female	Senior researcher	Jagiellonian University
R7	Male	Senior researcher	Kozminski University
R8	Male	Senior researcher	Jagiellonian University
R9	Female	Director	Google
R10	Male	Director	Deviniti
R11	Anonymous	Anonymous	Anonymous
ChatGPT	–	–	–

The survey questionnaire scenario was based on themes regarding knowledge management from the literature review. The survey questionnaire was prepared in the native language of participants, i.e., Polish, using the SurveyMonkey tool. The survey questionnaire scenario focused on the expert's thoughts regarding the opportunities and threats arising from the use of generative AI in the knowledge management sector.

The interviews were analyzed through dedicated software widely used by researchers to interpret qualitative data – MAXQDA 2020 software (Creswell, 2014). We used open coding, axial coding, and selective coding.

Following Dwivedi et al. (2023) discussion we stated our research question as follows:

RQ: Does generative AI challenge assumptions in knowledge management research and lead to a paradigm shift?

RESULTS

To understand the influence of generative AI on the knowledge management paradigm, we divided our findings into 4 sections. Each represents a different stage of the technology-powered knowledge management process in an organization (Alavi & Denford, 2012): knowledge creation process; knowledge storage and retrieval process; knowledge transfer and sharing process; knowledge application process.

Generative AI in knowledge management: knowledge creation process

The formation of new knowledge is recognized as an important and primary stage of knowledge management (Gurteen, 1998; Nonaka, 1994). Knowledge can be either created internally or obtained from the outside. According to our respondents, the ability to create knowledge is one of generative AI's advantages. Apart from recognizing the ability to create new knowledge quickly, our experts see the generative AI's potential to create new declarative knowledge, and so do researchers (Jarrahi et al., 2023).

"[Generative AI] Accelerates knowledge creation in the organization" (R5)

"[Generative AI] Can be used to create new knowledge, in particular: recognizing previously unknown patterns, searching organizational data, and discovering relationships, and developing new declarative knowledge." (R6)

Moreover, our respondents recognized cost-effectiveness of the knowledge created by generative AI.

"Acquiring knowledge is not as expensive in an organization as maintaining it. In my opinion, this is a great human-machine synergy that would work well in organizations that want to manage knowledge. In addition, a different approach to creating knowledge management systems, for example, to demand-driven, meaning an employee asks, and only AI produces that knowledge, rather than it having to be created manually by humans and stored just in case." (R10)

As with generative AI decision support, our respondents stressed that the creative process also requires collaboration between humans and AI. Using generative AI tools in the creative process does not exempt people from creative thinking.

"Generative AI models can generate new ideas and solutions. Employees and managers must have the creativity to use these ideas and solutions in the knowledge management process." (R11)

Generative AI's advanced ability to analyze data was recognized by our respondents. Hence the possibility of using the technology as a support in the creative process leading to the formation of new ideas, concepts, products, and innovations was mentioned. This goes in line with former research claiming that "ChatGPT can help people be more creative and productive and improve organizational knowledge management." (Dwivedi et al., 2023, p. 14)

"Generative AI can help automate and streamline business processes, improve product and service quality, and create new products and services. (...) Generative AI can help generate new ideas and solutions based on existing knowledge." (R11)

Knowledge generated by generative AI may be too complex to understand and lead to internal chaos. Since generative AI technologies are still emerging (Kane, 2017), they are known for their tendency to hallucinate, i.e., create false information.

"I would see a major threat in a phenomenon that could be called the fictionalization of knowledge. It would involve the generation by AI of seemingly plausible scenarios or packages of structured information, which, however, upon deeper analysis, would turn out to be incompatible with reality. The big problem here would be a matter of scale: individual errors are easier to catch, but the situation becomes more complicated when they are, as it were, written into the DNA of the system." (R4)

"Generative AI can generate very complex models and results that can be difficult to understand and control. In the event of errors or unexpected results, the organization can lose control of the knowledge-generation process. (...) Generative AI relies on algorithms and mathematical models, which can have limitations and be prone to error. The results generated by generative AI can be difficult to verify and confirm, which can introduce uncertainty into the knowledge management process" (GPT)

Generative AI in knowledge management: knowledge storage and retrieval process

Our respondents indicated that generative AI technologies used in organizations aid their efficiency and productivity. As one of the advantages, the respondents mentioned the ability to structure stored knowledge so that it is easily accessible to recipients. Previous studies show that its particularly relevant at the organization's strategic level (Korzynski et al., 2023).

> *"Generative AI, in addition to its purely creative functions, can also have predictive qualities: it can help an organization make greater use of available information and process it into data useful for knowledge management." (R2)*
>
> *"Generative AI models can help organize and categorize accumulated knowledge. They can also help create knowledge bases that allow for easier access to information and knowledge." (R11)*
>
> *"AI can help organize accumulated knowledge by categorizing, tagging, and labeling data. This makes it easier for organizations to find the information they need later." (GPT)*

Consistent with Korzynski et al. (2023), our respondents admit that the use of generative AI may result in managing tacit knowledge. Participants emphasized as follows:

> *"Generative AI can help uncover hidden knowledge in an organization, for example, by analyzing data from different sources and discovering hidden connections between them." (R11)*

Among the opinions on efficiency and productivity, there were also concerns about the possible loss of knowledge in the organization. Daghfous et al. (2013, p. 655) indicate that "organizations should retain and diffuse architectural knowledge, improve strategic coordination among units, develop existing capabilities through different networking strategies and more effective networks, and transform these capabilities into effective organizational routines".

> *"Short-sighted decisions related to the apparent substitutability of human competence for AI can result in a significant loss of knowledge in organizations. AI in today's form is dyadic, while the functioning of organizations requires routines, multilateral, and multi-stakeholder. Those organizations that fail to recognize the dangers of replacing individual humans with AI will break the chain of routines and lose their existing competencies." (R3)*

Generative AI in knowledge management: knowledge transfer and sharing process

Our respondents emphasized that generative AI allows sharing of knowledge within the organization and to society in general. This is consistent with Nguyen & Malik's (2022) results about the positive influence of AI on knowledge sharing in the hospitality industry.

> *"The use of generative AI can lead to several benefits in the knowledge management process, including: (...) wider distribution (popularization) of knowledge in the organization/society" (R7)*
>
> *"Generative AI models can help create knowledge-sharing tools and systems, such as knowledge bases, knowledge portals, and collaboration systems." (R11)*

The challenge of establishing a culture of openness and trust where employees share their knowledge was addressed as follows:

> *"[Generative AI] Eliminates common problems, such as reluctance to share knowledge." (R8)*

While Arun Kumar et al. (2023) discussed the great influence of AI on the personalization of e-learning systems, our respondents emphasized the role of generative AI in adapting knowledge to employees' individual needs and abilities.

"Generative AI can help personalize employee learning by providing customized materials and training that meet each person's specific needs." (R11)

"The use of generative AI can lead to several benefits in the knowledge management process, including: (...) the ability to transform expert knowledge, into knowledge that is directly useful to a given employee in each position (e.g., selecting information, changing the form of information to one that is accessible (understandable) to a given employee" (R7)

Generative AI in knowledge management: knowledge application process

Researchers claim that generative AI systems may provide managerial recommendations if organizations implement the technology into their data management systems (Korzynski et al., 2023). The automation of data management and business processes was stated as follows:

"It [generative AI] seems to have the strongest potential to impact the ability to analyze large data sets, automate business processes (...) and improve strategic decision-making" (R6)

"Generative AI can help automate and streamline business processes, (...) It can also help analyze data, forecast trends and make business decisions." (R11)

Our respondents admit that generative AI tools support the decision-making process in organizations. Apart from the frequently emphasized ability to analyze big data and identify data trends that support the process itself, the participants stated the advantage of considerable time reduction of the process.

"AI will certainly have a significant impact on reducing knowledge management and decision-making time. What it should not significantly affect is certainly testing, which regardless of the information gained, input data and assumptions we should still perform." (R9)

"Generative AI can be used to generate guidance and suggestions that can help the decision-making process in an organization. This can be particularly useful in complex situations where quick and accurate decisions are needed." (GPT)

According to our experts and GPT at this stage of technological development human-AI collaboration in the knowledge management process is crucial which goes in line with recent research (Jarrahi et al., 2023). The role of human beings in an accurate decision-making process is still significant and the ability to analyze data and solutions provided by generative AI is an advantage.

"When redesigning processes, management should pay attention to sensitizing employees that unreflective reliance on AI alone can lead to mistakes. To counteract this, the organization can develop processes in which AI and humans make decisions in parallel and then compare results. Alternatively, the decision-making process can be sequential, so the employee confirms the decision made by the AI." (R6)

"The current technology is still a new tool for us, and the data analyzed is publicly available information that may not always be correct. Nevertheless, the ideal solution here is to obtain several possible solutions, and the human being should have the final say and the opportunity to make the final decision." (R9)

"Generative AI can provide a lot of information, but it is up to employees and management to know how to interpret and use it in the decision-making process. Therefore, employees must have analytical skills and know how to use the available analytical tools." (GPT)

Moreover, the participants recognize the decision-making and problem-solving supporting role of generative AI in the collaboration process – not necessarily from a strategic, managerial perspective.

"Generative AI models can be complementary in the collaboration process. They enable teams to process large amounts of data more quickly and efficiently, which can lead to better and more accurate decisions. In addition, generative AI can also help detect patterns and trends that may be difficult for humans to spot." (R11)

Simultaneously, the respondents admit that the AI-supported decision-making process comes with disadvantages such as difficulties understanding the process and its results or lack of reference to business realities.

"Decisions made by AI models are often based on complex algorithms that can be difficult for humans to understand. This makes it difficult to understand the decision-making process and analyze the results. (…) Generative AI models may be able to generate results that are technically correct but useless from a business perspective if context and business requirements are not considered." (R11)

Our respondents also expressed concern about the sensitive data of users and organizations. Yet another of the identified drawbacks of using generative AI in knowledge management is potential data leakage and cybersecurity threat.

"Generative AI may use user data and information inappropriately. As a result, there is a risk that this data may be inadvertently disclosed to external parties." (R2)

"Generative AI may require large amounts of data, including sensitive, personal data. There is a risk that this data may be used contrary to the organization's intentions or may be subject to privacy violations." (GPT)

DISCUSSION

In this paper, we examine the understanding of generative AI on the knowledge management and its possibility to shift the knowledge management paradigm. Prior research focusing on generative AI in knowledge management focused e.g., on influence of the technology on strategic, functional, and administrative level of management (Korzynski et al., 2023). Some other scholars investigated possible forms of collaboration and partnership between humans and AI (Jarrahi et al., 2023; Zhou et al., 2020).

This study supplements previous research by providing additional insights to the "perspective on organizations as knowledge systems and describes the four underlying knowledge management processes: knowledge creation, knowledge storage and retrieval, knowledge transfer, and knowledge application" (Alavi & Denford, 2012, p. 105) as for generative AI applications, including ChatGPT. A key finding of this study is that generative AI within organizations challenge the process of knowledge management, both internal and external, and impacts each of the four stages mentioned.

First, a deliberate use of generative AI in organization may provide competitive advantage and a unique opportunity to create a new knowledge in a cost-effective way and ability to

analyze large sets of data. Generative AI based applications allow to support creativity and formation of new ideas, products, and services. Until recently activities and jobs which required creativity where perceived as "safe" one as opposed to repetitive work (Holford, 2019), yet the dissemination of generative AI represents a breakthrough and changes this concept of thinking (Holford, 2019; Torkington, 2023). Prior research discussed the ability of generative AI tools to "help people be more creative" (Dwivedi et al., 2023, p. 14), yet our findings show that tools such as ChatGPT can itself be creative and require the human-being supervision. Creativity researchers in their manifesto (Vinchon et al., 2023) underlined the role of human-AI collaboration, ethical and responsible use of the technology, that can help shape environment boosting human creativity and minimizing potential risks, such as technological unemployment.

Second, the role of generative AI in organization knowledge transfer and sharing is broad and very hopeful, incl. popularization of knowledge inside and outside organization, building culture of openness and personalizing it to individual needs. Scholars discussed the humans engagement in sharing their knowledge as a possibility to enhance generative AI-powered workplace (Tredinnick & Laybats, 2023). Nguyen and Malik (2022) discussed the positive role of AI systems enabling increased knowledge sharing that positively affects customer's expedience with service quality.

Third, all advantages mentioned above go with threats. The most essential one from the perspective of knowledge management is the possibility to lose unique organizational data; create fake information; or provide difficulties for human to understand the processes related to knowledge management, supported by generative AI. These points are crucial to understand possible disadvantages related to utilization of generative AI applications within the organization. As discussed by Wach et al. (2023) there are multiple risks associated with use of generative AI in business, incl. lack of regulation, risk of multiple forms of disinformation generated by AI, possible leakage of sensitive data, and ethical challenges.

It also needs to be stressed that the authors of this paper are aware of the limitations of the research findings. The study is one of the initial contributions to the discussion of generative AI in knowledge management and focuses only on opinion given by experts from Poland. Therefore, additional studies in other contexts, with experts from experts from less and more technologically advanced countries should be conducted. Moreover, the technological environment changes rapidly and, as mentioned by one of our respondents, "the answers to the questions for this article the ones I started providing last week needed to be updated" (R9). Therefore, the results of our study may not be very valid after its publication and even greater technological advancement and understanding of generative AI and its influence on the knowledge management paradigm.

Future research on the topic of generative AI in knowledge management paradigm should consider advantages and disadvantages related to the use of the technology in organizations separately, with more detailed perspective. Futhermore, we propose that future research closely and individually examine the influence of generative AI on different stages of the knowledge management process within the organization.

CONCLUSIONS

The article discusses the current level of knowledge of generative AI, with a prediction of its impact on knowledge management processes in organizations. Generative AI uses deep learning algorithms to create new content, which can help businesses develop fresh, cutting-edge goods and services. Generative AI can also automate repetitive processes, produce new insights, accumulate knowledge, and assist in making better-informed decisions. Moreover, the use of generative AI in organizations can address the challenge of managing tacit knowledge and the internal reluctance to share knowledge. Despite the advantages, applying generative AI to the knowledge management process comes with several serious difficulties and threats. Organizations must ensure that their data is correct, relevant, and current. They must also ensure that their algorithms are being trained on the relevant data and that the output is accurate. The use of generative AI requires employees and managers to understand the technology and have the analytical competence to verify the results obtained. Furthermore, the use of generative AI raises ethical issues such as the fabrication of false information, deep fakes, and impersonation. From the perspective of the knowledge management process, this phenomenon is particularly dangerous and can lead to chaos within the organization and/or loss of organizational knowledge. Companies must ensure that generative AI complies with ethical standards, laws, and social conventions. In addition, to ensure the continuity of the knowledge management process, employees and managers should be aware of the challenges posed by using generative AI. Learning how humans and AI work together seems inevitable.

One of the most well-known AI applications is ChatGPT, a sizable language model that employs deep learning techniques to respond to natural language inquiries. ChatGPT has the potential to democratize access to management insights and offer a less complex and more approachable substitute for conventional management systems. It can improve over time through continuous learning and can eventually replace traditional management systems. However, the use of ChatGPT also comes with difficulties, such as ensuring that the generated responses are impartial, truthful, and ethical, and preventing its users from replacing human workers.

According to our study results, all the stages of the knowledge-management process may be influenced by generative AI technologies. The process of human-AI knowledge co-creation and co-management requires a new approach to the knowledge-management paradigm. An effective collaborative AI process is essential, ensuring that generative AI is integrated into existing knowledge management workflows, allowing for seamless collaboration and knowledge sharing. While generative AI tools automate certain aspects of knowledge management, they do not eliminate the role of interpersonal networks and connections. Instead, they can complement and enhance these networks by facilitating more efficient information exchange and expanding the reach and accessibility of knowledge within networks. This arises a further need to explore the phenomena.

Through the mass adoption of generative AI tools among users, interpersonal networks and connections can become even more relevant. These tools can amplify the ability to connect with relevant expertise, foster communities of practice, and enable broader knowledge dissemination. The combination of generative AI and interpersonal networks can create a synergistic effect, leveraging the strengths of both to enhance knowledge sharing and collaboration within organizations.

In conclusion, generative AI has the potential to significantly impact digital transformation, but its application comes with serious difficulties, including the need for high-quality data, algorithmic accuracy, and ethical considerations. The democratization of access to management insights and the ability to improve over time through continuous learning are two significant benefits of ChatGPT. However, the use of ChatGPT also requires careful monitoring to prevent the replacement of human workers and ensure impartial, truthful, and ethical responses. As the digital revolution continues, organizations must consider the potential benefits and difficulties of generative AI carefully.

The successful use of generative AI in knowledge management is determined by a combination of factors. Organizational culture plays a significant role as it needs to foster a learning and innovation mindset that embraces the integration of AI technologies. The digital competence of participants is crucial to effectively utilize and leverage generative AI tools and platforms.

IMPLICATIONS FOR RESEARCH AND APPLICATION

Research described in this paper provides a preliminary analysis of the current level of knowledge and understanding of generative AI, with a prediction of its impact on knowledge management processes in organizations.

From the practical point of view, our study results can guide managers and organizations in understangding the challenges affiliated with implementation generative AI applications and its possible influence on the company's knowledge management. This is extremely important from the business perspective in challenging times of digital transformation and technological race, which, properly implemented, can be a source of competitive advantage.

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