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Perspectives and Trends in Organizational Knowledge Management

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José Jerônimo de Menezes Lima
Doctor in Business Administration
Brazilian Institute of Analytical Competition (IBCA)
E-mail: jeronimo@ibca.net.br

Luciana Hahn de Menezes
MBA in Computer Science
Center for Information and Communication Technology of the State of Rio Grande do Sul S. A. (PROCERGS)
E-mail: luciana-hahn@procergs.rs.gob.br

Maria do Rocio Fontoura Teixeira
Doctor in Science Education
Federal University of Rio Grande do Sul (UFRGS)
E-mail: mrfontoura@gmail.com

Emir José Redaelli
Doctor in Business Administration
Brazilian Institute of Analytical Competition (IBCA)
E-mail: emir@unisinos.br

ABSTRACT
This article examines the perspectives and trends in organizational knowledge management. The perspectives were obtained from the perception of managers who are experts in the field of statements about the decline of this field of study in the academic and business environment, as well as from practical experiences in the implementation of knowledge management projects in companies, based on a case study. The trends were obtained from the review of the specialized academic and commercial literature on the use of knowledge management in companies. This qualitative research used the case study method, carried out in an information technology company that executes the information technology policy in the State of Rio Grande do Sul, Brazil. For data collection, primary and secondary documents of the company were analyzed, a questionnaire was applied with open, exploratory questions, and semi-structured interviews with confirmatory questions were conducted. Regarding the perspectives, the results found show the vitality of the field of study today and show the evolution of its use by companies and the perception of specialist managers about criticisms and pessimistic statements about this field of study offers an overview of how it is currently being approached and the directions it is taking at the academic and business level. The results suggest the possibility of a conceptual and practical reformulation of the field of study, given the evolution of the theme, to keep up with technological changes. They also highlight the development of automated mechanisms for knowledge flows that can be leveraged by artificial intelligence. They show companies' emphasis on implementing standards for knowledge management, such as ISO-9001 and ISO-30401, conducting audits to ensure the effectiveness of knowledge management programs, advances in adopting practices to improve organizational learning based on collective intelligence, increasing use of communities of practice, emphasis on competitive intelligence, and data privacy concerns. Regarding the trends in the field of study, the results found indicate an emphasis on lean project management, attention to information sharing for remote work, actions aimed at absorptive capacity and organizational ambidexterity, intensive use of data analysis, alignment with themes of Society 5.0 and sustainability, use of maturity models, and the impact of artificial intelligence. The relevance of the research lies in the adoption of a critical approach to the field of study, bringing theoretical contributions and implications at the practical level, in addition to suggesting the realization of future studies for empirical validation of knowledge management projects.

Keywords: Knowledge Economy, Knowledge-Intensive Companies, Knowledge Management, Organizational Knowledge Management.

1 INTRODUCTION

The contemporary business environment is marked by rapid changes, technological innovations in the production and management areas, changes in customer demands and fierce competition. In this context of the so-called Knowledge Economy, intellectual capital is recognized as a vital strategic resource for the survival, growth and competitiveness of companies. It represents the accumulated knowledge of both individuals and organizations and, through its effective management, enables the generation of value for the business. Given that knowledge is the key driver of intellectual capital in order to obtain competitive advantage, companies are increasingly focused on maximizing its use to achieve strategic objectives and adapt efficiently to the dynamic business environment. Intellectual capital is seen as any improvement in a process, product or service resulting from the application of acquired knowledge.

According to Lima and Redaelli (2024), this issue is particularly relevant in knowledge-intensive companies, whose value-adding activities are based on the acquisition, creation, dissemination, and application of knowledge. According to the Organization for Economic Cooperation and Development (OECD, 2023), knowledge-intensive economic sectors are those that significantly depend on intellectual capital and technical knowledge for the development, production, and delivery of products or services. These sectors are characterized by a high proportion of skilled workers, including scientists, engineers, researchers, and technology professionals. They often involve innovative activities and depend on the creation, dissemination and application of new ideas and technologies. These sectors include, but are not limited to, information technology, biotechnology, pharmaceuticals, finance, education, and research and development. The economic performance of these sectors is strongly influenced by the ability to generate new knowledge and to apply it effectively in a creative and innovative way (GARCIA; SOSA-FEY, 2020; ZIEBA, 2022).

In this sense, Baker (2017) uses the metaphor of a symphony to describe how the four components of W. E. Deming's (1990) "Theory of Deep Knowledge" — Theory of Knowledge, Statistical Analysis, Psychology, and Systems Theory — work in harmony to improve the management and performance of organizations. The author details how these principles can be applied to continuously improve processes, products, and services, as well as promote a more collaborative and sustainable work environment. In this way, knowledge acts as a central element of today's economy, emerging as an asset for sustainable value creation and the pursuit of long-term competitiveness by companies.

Knowledge management deals with an organization's ability to identify, acquire, create, share, and utilize knowledge to achieve its strategic objectives. This process involves the systematization and integration of the knowledge created within the organization, as well as the knowledge acquired from outside. Effective knowledge management helps companies leverage their collective intelligence and

adapt to market or technological changes faster and more efficiently. It encompasses both tacit knowledge, which is personal, contextual, and difficult to formalize, and explicit knowledge, which can be easily documented and shared. At the heart of knowledge management is collaboration and sharing between individuals and groups within the organization. Tools and technologies such as corporate intranets, content management systems, and collaboration platforms are often used to facilitate communication and information sharing. Leadership plays a crucial role in creating a culture that promotes knowledge sharing and appreciation. Additionally, strategies for capturing and retaining the knowledge of departing employees are important for mitigating the loss of valuable information. Thus, knowledge management is seen not only as an operational practice, but as a fundamental strategy that can lead to a sustainable competitive advantage. These are the fundamental principles of Organizational Knowledge Management (OCM), or simply Knowledge Management (KM; *Knowledge Management* (KM)) (DALKIR, 2023).

Although KM is not a new concept, it is considered a relatively recent field of study, with about 30 years of existence. Its foundations were established in 1991 by Nonaka and Takeuchi (1991), in response to the difficulties faced by companies in dealing with the complexity of knowledge-intensive economic sectors, marked by rapid technological development and the sophistication of customer requirements (BECERRA-FERNANDEZ; LEIDNER, 2008; JEFFCUTT, 2008; FULLER, 2016; HANDZIC, 2017; JOHANNESSEN, 2018, 2020; DALKIR, 2023). SINCE THEN, SEVERAL CONCEPTS AND DEFINITIONS HAVE BEEN ATTRIBUTED TO KM, FOCUSING ON THE POSITIVE RESULTS OF THE POTENTIAL OF ITS ACTIVITIES. AS A RESULT, THE MULTIDISCIPLINARY NATURE OF THE FIELD OF STUDY HAS GENERATED A VAST AND RICH LITERATURE ON IT, BUT IT IS NOTED THAT THERE IS STILL NO UNIVERSALLY ACCEPTED DEFINITION OF KM. THIS LACK OF CONSENSUS STEMS FROM THE FACT THAT KM IS APPLIED TO A WIDE SPECTRUM OF ACTIVITIES AND IS ALSO DUE TO THE YOUTH OF THE DISCIPLINE (WALLACE, 2007; ALVARENGA NETO, 2012; BOLISANI; HANDZIC, 2016; HANDZIC, 2017; JOHANNESSEN, 2018, 2020; DALKIR, 2023).

Since the early days of KM, the different concepts and definitions have generally aligned around the common idea that knowledge is an essential intangible asset for companies, and should be managed according to a procedural view of the life cycle of knowledge as a business resource, which has generated a polysemic field of study (LIMA; REDAELLI, 2024). In Brazil, universities and companies follow the concept proposed by the Brazilian Society of Knowledge Management (SBGC, 2010): "KM is a systematized process that employs a grounded methodology and an established model for the identification, creation, retention, transfer and application of knowledge, to generate value for the business."

However, over the years the field of KM study has been enriched by contributions from academic research and business case studies in a variety of economic sectors, especially knowledge-intensive ones. And although the literature on the subject has focused on an almost always optimistic view, there has occasionally been criticism from academia and business about the decline of this field of study (TOMBS, 2004; DAVENPORT, 2015; HEISIG, 2015; GARLATTI; MASSARO, 2016; O'LEARY, 2016; HANDZIC, 2017; GARCIA; SOSA-FEY, 2020; NAKASH; BOUNIK, 2021). For example, the fact that a controversial statement about the "shortness of breath" of KM came from one of the exponents of the area (DAVENPORT, 2015) raises reflections on its current importance and questions its evolution.

In this sense, this article aims to answer the following research question: What are the perspectives and trends of KM? This basic question opens the way for new reflections: What is the future of KM in the business environment? Is it necessary to reformulate the vision of KM as a useful field of study for business strategy? Is KM in companies declining or does it continue to evolve? What are the impacts of artificial intelligence on KM?

Academically, "perspectives" refer to different theoretical, methodological, or analytical approaches used to understand a phenomenon, including strategies on how companies implement KM. "Trends," on the other hand, refer to emerging patterns or directions in a field of study. By applying these concepts to research, the article offers a comprehensive analysis of KM, exploring theoretical and practical differences adopted by companies, and discussing models, strategies, and challenges associated with knowledge management. It also focuses on emerging changes and predictions, involving the integration of new technologies, adapting to evolving work environments, and developing new strategies to address contemporary challenges.

This article presents the perspectives of KM experts, based on their perceptions of statements that praise or criticize the field of study, based on the assumption that the debate on these statements can enrich the understanding of the contemporary role of KM in the Knowledge Economy and illuminate possible directions for its use in the future of business. It also presents the trends in KM, as suggested by the academic and commercial literature specialized on the subject. In this way, it aims at a more in-depth and contemporary understanding of KM in ever-changing economic and business contexts, driven by advances in technology. The research suggests how companies can manage their knowledge effectively in this environment, providing insights for both academics and professionals working in corporate KM. In addition, it offers a balanced perspective on the current state and future of KM, underlining the need for innovative and adaptive approaches in the face of the challenges encountered.

The delimitation of this study focuses on the exploration and analysis of the evolution of KM in companies, emphasizing its strategic importance for competitiveness. Considering the rapid

evolution of information and communication technologies and the growing relevance of knowledge for business performance, this work stands out for addressing issues pertinent to the evolution of KM and its adaptation in companies, highlighting the need to understand and respond to the rapid changes in the business and technological scenario, emphasizing the strategic importance of KM.

2 THEORETICAL FRAMEWORK

2.1 FUNDAMENTALS OF THE KM

There is a great diversity and ambiguity of KM concepts, which characterizes this field of study as being polysemic. Some researchers argue that this field of study continues to search for its identity and purpose (HEISIG, 2015; WALLACE, 2007; HANDZIC, 2017). In fact, since its emergence, KM has fostered the development of a large research community, supported by several specialized journals. Its interdisciplinary nature means that studies on the topic are found in a variety of fields, including Administration, Archivology, Library Science, Computer Science, and Sociology. This heterogeneity contributes to the overlapping of concepts, with frequent eventually divergent emphases in the academic curricula of undergraduate and graduate programs in these areas (HEISIG, 2015; CERVONE, 2016; DALKIR, 2023).

Although there is a consensus on the multidisciplinary character of KM and its procedural vision, this brings challenges in relation to the definition of its limits as a field of study. Skeptics question its autonomy as a distinct discipline with a unique body of knowledge. They argue that KM incorporates a plurality of ideas without a coherent theoretical foundation, despite having evolved from the same foundations of academic research themes and business applications (GARLATTI; MASSARO, 2016; DALKIR, 2023). However, there is a continuous interest in KM at the international level, demonstrated by the publication of articles and books, the holding of conferences and courses, the incorporation of KM into the strategic agenda of companies, and the creation of postgraduate academic programs that contemplate the subject (Handzic, 2017). On the other hand, Dalkir (2023) highlights the distinct characteristics of KM, such as its ability to handle knowledge in all its forms, significantly differentiating it from other related areas. In addition, KM has managed to establish itself in a robust way in the academic and business spheres due to its ability to adapt theoretical models into management practices.

An analysis of the history of KM reveals significant progress in its use since its inception. The specialized academic and commercial literature has analyzed its evolution, highlighting it as a field of study of interest to both academics and companies. Even so, KM also faces criticism that questions its validity and its future (DAVENPORT, 2015; HEISIG, 2015; HANDZIC, 2017).

According to Nakash and Bouhnik (2021), one of the first questions about the relevance of KM came from Tombs (2004), who declared the "death of the discipline", arguing that it had lost its

relevance for companies and, consequently, its justification for investments in new projects. This pessimistic statement was reinforced by the argument that KM was just a management fad, with companies anticipating its decline (GARLATTI; MASSARO, 2016). In this sense, Davenport (2015), one of the pioneers in the area, criticized the lack of attention to fundamental challenges such as the transformation of data into information and from these into knowledge. According to this author, the decline of KM occurred due to insufficient efforts to change organizational behavior, excessive dependence on technology, and difficulties in accessing external knowledge due to its exponential growth volume. He provocatively suggested that "KM is not dead, but it is panting," indicating that while it is premature to declare its demise, the field of study faces significant challenges in maintaining its vitality today.

Countering these statements, O'Leary (2016) conducted an empirical study using the platforms of Google Scholar, Google Trends, and the history of the Gartner Group (2021) Hype Cycle, showing a graphical representation of the life cycle of a technology, from its innovation and launch to adoption and maturity in the market. The Hype Cycle stands out as a methodology used to represent the life cycle of technologies from their conception to their widespread adoption and maturity, being widely used by companies and technology professionals to better understand the development and acceptance of new technologies in the market. This study revealed that the term "Knowledge Management" continues to be widely used and researched, indicating a continued interest in the topic, as cited by Nakash and Bouhnik (2021). In many aspects, KM is currently seen as an approach that is still widespread in companies, driving innovations, and the underlying premise for its use is that it leads to more effective decision-making processes, organizational learning, and the development of creative approaches to the problems faced by companies (GARCIA; SOSA-FEY, 2020).

2.2 EVOLUTION OF THE KM

The great challenge for companies today is to remain competitive in the face of turbulent markets and scenarios of complex changes. To meet this challenge, they need to develop dynamic capabilities by identifying, acquiring, sharing, creating, applying and protecting strategic knowledge to improve processes, products and services, and innovate. From this perspective, KM is a strategic initiative that ranges from the definition of strategic knowledge to the implementation of managerial practices to use knowledge to achieve competitiveness in business (BECERRA-FERNANDEZ; LEIDNER; LEIDNER, 2008; SBGC, 2010; BOLISANI; HANDZIC, 2016; BETTIOL; DI MARIA; MICELLI, 2021).

The term KM emerged in 1991, expressing the importance of knowledge for organizations and the need to manage it (NONAKA; TAKEUCHI, 1991). From then on, KM went through successive stages and has evolved since then, following the development of technology (BECERRA-

FERNANDEZ.; LEIDNER; LEIDNER, 2008; JEFFCUTT, 2008; HANDZIC, 2017; DALKIR, 2023). For Lima and Redaelli (2024), five eras describe this evolution: Information Management Era (KM 1.0), Intellectual Capital Management Era (KM 2.0), Innovation Management Era (KM 3.0), *Data Science Era* (KM 4.0), and Artificial Intelligence Era (KM 5.0).

KM 1.0 boosted explicit knowledge, both individual and group, with the purpose of ensuring that individuals had access to relevant, timely and high-quality information, allowing them to perform better in their professional activities. To this end, it dealt with the capture, categorization, classification, storage and centralized distribution of information made available in training handouts, books, documents and reports, preferably in electronic format. This internship was strongly based on Information Technology (IT) to use databases, intranets, wiki document repositories and document management systems to generate explicit knowledge and enable the use of lessons learned to improve personal knowledge, with the conversion of tacit knowledge into explicit knowledge by the "Knowledge Spiral" (NONAKA; TAKEUCHI, 2008). The information used to define strategies was superficial, obtained by empirical observations of internal data only. Information from the external environment was collected from analyses carried out without the proper deepening of strategic value for business decision-making.

KM 2.0 aimed to leverage experiential knowledge and its sharing, with a focus on individual and organizational learning to create new tacit knowledge and interactive processes for learning, in practice. This generated "intellectual capital", that is, all the improvement of processes, products and services resulting from the absorptive capacity of companies, which sought to acquire, assimilate, transform and apply knowledge to generate value in the market (EDVINSSON; MALONE, 1998; SVEIBY, 1998; LIMA; REDAELLI, 2024). Companies that worked with this focus were called *learning organizations* (Senge, 2013). In them, people shared their knowledge with *mentoring*, communities of practice, *blogs*, and *wikis* that served as repositories of lessons learned to share knowledge focused on increasing productivity. Decision-making was based on descriptive analysis of internal and external data with a *Business Intelligence* module of integrated management systems (ERPs), used in problem solving, but without a systemic perspective (CHEN; TSAI, 2020). According to Lima and Redaelli (2024), most KM projects have never advanced from this stage, because sharing knowledge is not just about giving something to people or getting something from them. This is only valid for information sharing. Sharing knowledge only occurs when people are genuinely interested in helping each other develop new capacities for action, using the creation of learning processes.

KM 3.0 aimed to generate collective analytical knowledge, especially through open innovation (CHESBROUGH; VANHAVERBERKE; WEST, 2017; FERNANDES *ET AL*., 2022). Innovative decision-making was the focus at this stage. You can have perfect information, but that doesn't necessarily mean that it's well understood or that it supports good decisions. In this stage, people were

brought together using group conversation tools to build a collective sense for organizational learning, which did not happen in the previous stage (DRUMMOND, 2016). This allowed for more informed decision-making for the innovation generated by the formulation and implementation of deliberate differentiation strategies, based on predictive analysis of internal and external data with *Business Analytics*.

KM 4.0, still in progress, seeks the decentralization of knowledge on platforms built with user-friendly cognitive computing and gamified to promote storytelling with data in remote and hybrid work environments. In addition, it aims to improve collective knowledge with the application of mathematical models and statistical methods for data-driven decision-making (SHARDA, DELEN; TURBAN, 2019). With this, it hopes to create an analytical advantage for sustainable competitiveness with the use of statistical methods and algorithms for *big data* analysis. Companies that act in this way are characterized as *data-driven,* those that use data analysis and insights in decision-making to generate deliberate cost, differentiation, or focus strategies to achieve analytical advantage by discovering trends (BANASIEWICZ, 2022; DAVENPORT; HARRIS, 2020; SCHAEFER; MAKATSARIA, 2021; AL-SARTAWI *ET AL*., 2022; REDAELLI; LIMA, 2024).

KM 5.0, recently started, considers leveraging efficiency, fostering innovation, improving decision-making, and boosting KM in companies with Artificial Intelligence (AI; *Artificial Intelligence*). For this to occur, it uses neural networks, Machine Learning (ML; *Machine Learning*), Natural Language Processing (NLP), and deep learning. It uses the robotization of processes, innovation of virtual products and services, personalization of the customer experience, risk reduction, decision-making in dynamic environments, and solving complex problems (DAVENPORT, 2019; BOOTLE, 2022).

According to Gartner Group (2021) and Moore (2021), through NLP and emerging technologies such as generative AI, knowledge graphs, and composite AI, companies are creating products, improving processes, and increasing their customer base. However, the focus is still on increasing the speed at which proofs of concept are deployed in production. Consequently, the trends that dominate the AI landscape indicate approaches to operationalizing AI initiatives, efficient use of data, models, and computing, ethically responsible AI, and integrated use of data science and AI.

For Lima and Redaelli (2024), the first era of KM emphasized information flows to support decision-making at the individual level. The second era focused on the conversion of tacit knowledge into explicit knowledge to translate individual knowledge into collective. The third era recognized the need for information flows that used not only internal knowledge to generate innovation. The fourth era, still in progress, integrates the previous ones, describing a KM system that aims to increase business performance by creating a data-driven organizational culture for strategic decision-making.

The fifth era drives KM by automating the collection and organization of *big data*, making knowledge more accessible and useful to companies.

Through ML techniques, AI can analyze complex data, identify patterns and trends, and provide insights that aid in decision-making. It also facilitates knowledge sharing through recommendation systems that suggest relevant content for different users or business areas. It can be used to customize training programs tailored to the individual needs of employees to optimize learning trajectories, since AI-based systems assist in the efficient organization and retrieval of documents and information, facilitating access to stored knowledge.

AI can be applied in the modeling of future scenarios, helping companies anticipate changes in the market and discover trends to adapt business strategies. It assists in identifying areas where organizational knowledge is deficient, allowing companies to focus on developing specific personal and organizational competencies to improve collaboration between teams and subsidize the generation of ideas for innovation. AI systems support the decision, analyzing risks and presenting data-driven recommendations. In addition, AI can integrate knowledge from different sources, including internal and external data, for a holistic view of the company.

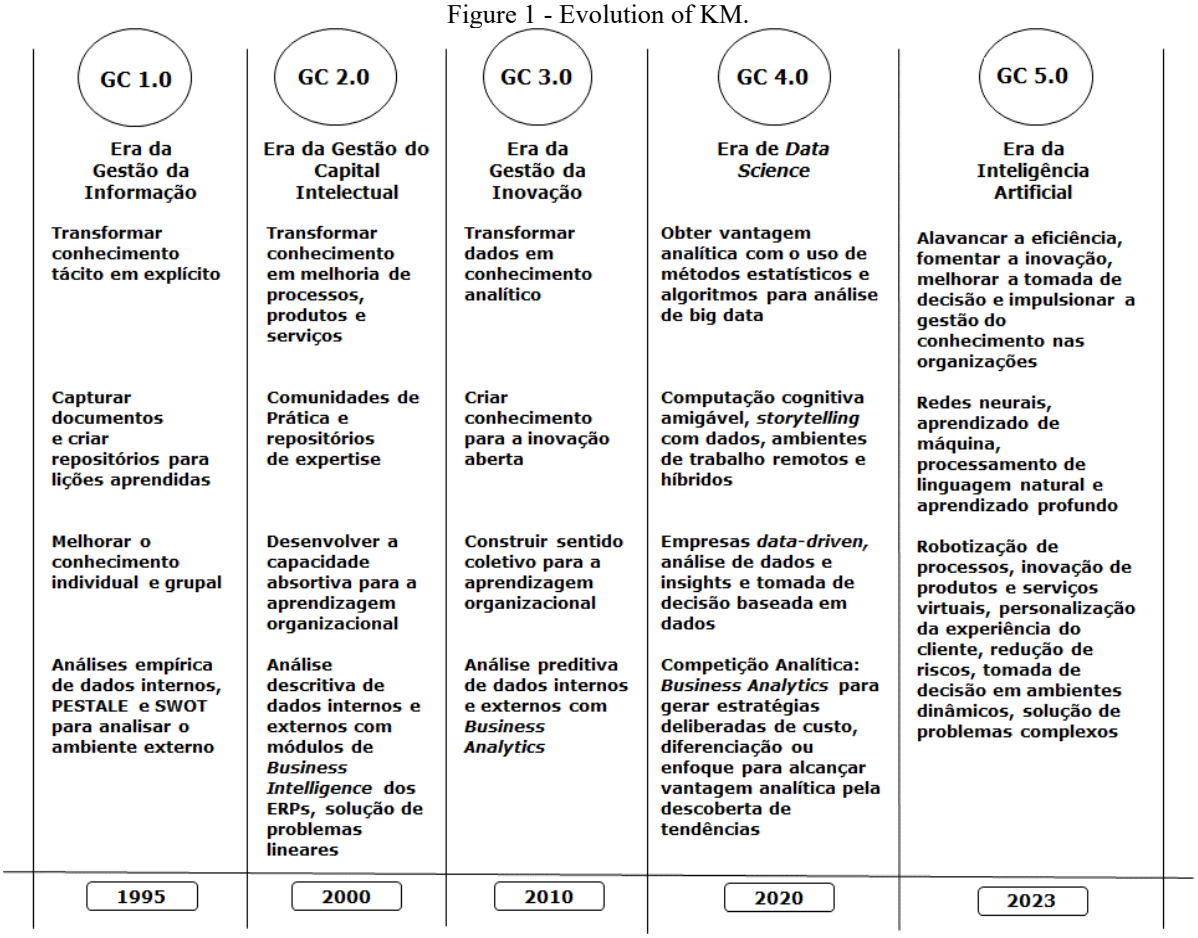
This rapid evolution has made KM a polysemic field of study, with many conceptual and practical differences, with no consensus between seminal and reference authors and professionals in the field. When analyzing the different approaches to the theme, it is clear that the only point in common between them is that KM is seen as a process, that is, a series of activities related to each other, which aims to transform inputs into products or services to meet customer demands and needs, contributing to generate value for the business. This occurs through management practices focused on each activity of the KM's procedural operationalization, as well as on the relationship of these practices with the company's operating environment. These practices systematized in work standards, which use Information Technology (IT) tools, are fundamental for KM to happen effectively.

In its evolution, KM has followed the changes in the economy and technology and the growth of the internet, evolving transdisciplinary into a broader field of study. As the fundamentals of management were incorporated into models of excellence or established management standards, the subjects related to organizational learning, which dealt with the dissemination of knowledge and the environment conducive to learning, were redistributed transversally in the various areas of the company, coordinated by the Human Resources area. In parallel, issues related to process mapping, analysis, and improvement were imbricated in standardization of activities and systems integration with *Business Process Management* (BPM), IT, and robotics applied in the business areas (RPA, *Robotics Process Automation*). In this way, it evolved into what is now called "*Data Science",* the science related to the collection of data from various sources, resulting from econometrics and data mining, to support decision-making, in a predictive and prescriptive way, using *big data*.

Bratianu, Handzic, and Bolisani (2023) state that companies need to explore the challenges and opportunities of KM in the post-pandemic world. Intangibles have become dominant resources and their effective management is essential to navigate the complexity of the new business environment, seeking diversification of perspectives on the evolution of KM and its potential for the future. The authors analyze opportunities for digital transformation with technologies such as distance reading, knowledge visualization, and advanced KM systems, offering an overview of current innovation achievements and prospects.

Figure 1 illustrates the eras of the evolution of KM as a field of study and Tables 1, 2 and 3 complement this illustration of evolution, showing the varied interest of academic researchers and companies in the areas of KM and AI. These analyses measure the number of academic publications and the online presence of these topics, using different data sources.

Figure 1 - Evolution of KM.



Source: Lima and Redaelli (2024).

Table 1 - Academic publications on KM and AI.

	KM	AI
1991-2000	170	92
2001-2010	1.211	235
2011-2020	721	2.060
2021-2023	223	3.855
Total	2.325	6.242

Source: Prepared by the authors.

This table presents the data obtained by research in the EBSCO scientific database, a platform recognized for its broad access to academic and scientific content. The *Academic Search Premier*, *Business Source Complete,* and *Computers & Applied Sciences Complete databases were searched*, searching for publications with the terms "*Knowledge Management*" and "*Artificial Intelligence*" in the title, available in English and with full text, by decade, from January 1991 to November 2023. The results indicate a peak in publications on KM in the decade from 2000 to 2010, followed by a decline, while publications on AI demonstrate continued growth, reaching a peak in the 2020s.

Table 2 - Web publications on KM and AI.

KM	2,360 bilhões
GC	0,123 bilhoes
KM + GC	2,483 bilhões
AI	1,110 bilhões
IA	0,109 milhões
AI + IA	1,219 bilhões

Source: Prepared by the authors.

This table compares the number of *websites* available in English and Portuguese related to KM and AI, measured on 12/1/2023. The data shows that, although there is still a predominance of content over KM, the generation of content about AI has been increasing significantly.

Table 3 - Books published on KM and AI.

KM	+30.000
GC	+6.000
KM + GC	+36.000
AI	+50.000
IA	+8.000
AI + IA	+58.000

Source: Prepared by the authors.

This table shows the number of books on KM and AI published on the Amazon platform, both in English and Portuguese, as of December 1, 2023. The data reveal a predominance of publications on AI compared to the number of books on KM.

It is noted that the tables indicate a decline in academic interest in KM since the peak in the 2000s to 2010s, which may suggest a maturation or stabilization of the discipline in the academic sphere. In parallel, the steady increase in publications on AI, especially evidenced in the 2020s, reflects the growth and emerging interest in this area, possibly driven by technological advances and practical applications.

The stronger online presence of KM, even with a decline in scholarly publications, may indicate that knowledge and practices in the field are well established and remain relevant to the general public and practitioners. The increase in the generation of online content about AI may be a reflection of the growing public and business interest, as well as the continuous development of the area.

The predominance of books on AI suggests a growing demand for information and education in this area, both for professionals and for the interested public, which may be indicative of the commercial relevance and practical applicability of AI today.

The smaller number of books published on KM may reflect a consolidation phase in the discipline, where the focus may have shifted to the practical application and integration of existing knowledge, rather than new theories or approaches.

The data from the three tables, when correlated, suggest a transition in academic and public focus from KM, a more established discipline, to AI, an emerging and rapidly evolving field. This pattern can be interpreted as a natural reflection of the life cycle of academic disciplines and areas of interest: while the field of study of KM matures and evolves in management practices, new areas (such as AI) emerge and gain prominence, reflecting technological advances and changes in market and societal demands. These correlations offer a bird's-eye view of trends and changes in the interest and development of two significant areas of study and practice, reflecting both the academic landscape and the broader market.

3 METHODOLOGY

In this study, a qualitative research approach was adopted, which considers subjectivity not as an obstacle, but as an essential starting point to understand the complexity of social reality. In this way, the study explores the social meanings that arise from human experiences, seeking to understand the phenomena as they are perceived and structured by the individuals involved. This focus is in line with the perspectives presented by Schwandt (2023) in his analysis of the interpretive paradigm in qualitative research.

For data collection, the research employs a case study-based approach, appropriate to gain a deep understanding of specific situations. This method allows for a systematic and detailed analysis of a particular case, gathering evidence for in-depth investigation into it. However, while this method offers valuable insights, it has limitations, as the cases studied relate to specific contexts and are limited in number. This makes it difficult to apply the results obtained to other cases, in addition to presenting difficulty in controlling all relevant variables. In addition, the subjectivity inherent in qualitative analysis can affect the external validity of the research and, by extension, the ability to generalize its results. However, case studies are useful for suggesting correlations and understanding complex contexts, and are fundamental for developing propositions and hypotheses for future research, and should be used in addition to other research methods to obtain a more complete understanding of the phenomena studied (FLYBJERG, 2021).

The study used the technique of triangulation of data from the single case studied, combining document analysis, questionnaire application and interviews. The documents analyzed allowed the understanding of the reality of the company studied, comprehensively; the questionnaires collected data on the perception of a sample of its professionals; and the interviews allowed a more detailed exploration of the opinions and experiences of the company's managers. According to Silverman (2020), data triangulation improves the validity and reliability of results, combining the strengths of different methods and compensating for their eventual limitations. By using multiple data sources and methodological approaches, the research gains in credibility and robustness, providing a richer and more multifaceted view of the phenomenon studied.

The research was carried out at the Center for Information and Communication Technology of the State of Rio Grande do Sul S. A. (PROCERGS), a mixed-capital company that began its activities in 1972 as the executing body of the state information technology policy. It is a company specialized in the development of IT solutions, operating in all the bodies of the state executive, processing millions of transactions daily for the proper functioning of the State, benefiting the lives of millions of inhabitants.

PROCERGS is linked to the Secretariat of Planning, Governance and Management, whose largest shareholder is the Government of the State of Rio Grande do Sul. It employs 1,025 technical experts with many years of professional experience in KM methodologies and technologies applied to IT. It provides services to public organizations, from mapping and defining knowledge needs for the design of solutions that support the closing of knowledge gaps, to the implementation of computerized systems (PROCERGS, 2023a).

The company's strategic statements state that the business deals with IT and Communication solutions for the public administration, with the vision of being recognized as a provider of high value-added solutions in the market in which it operates and mission to be a protagonist in the digital

government strategy providing solutions to transform public service and the citizen experience. The company's values are: *Economic and financial sustainability,* Continuous innovation, Value recognized *by the customer,* Agility *in deliveries,* Excellence *with simplicity, and* Proactivity *and commitment* (PROCERGS, 2023b).

The company often receives public praise and awards for its KM and innovation practices recognized by the Brazilian academic and business community (PROCERGS, 2023c), being cited as a Brazilian case of KM at the international level (Collison; Corney; Eng, 2019). The main consideration for the choice of this unique case study for the research was due to the potential for learning on the topic of KM, in a company with a tradition in its application as a business strategy.

Data were collected through primary and secondary documents, a questionnaire with five exploratory questions, applied to 12 managers, and semi-structured interviews conducted virtually with 4 managers of the company, who answered the same questions as in the questionnaire applied, but in a confirmatory character of the answers obtained in the questionnaire. All managers occupy leadership positions in the company studied.

As defined by Heisig (2015), "a person should be considered a KM specialist if they have carried out and published research on the subject at the national or international level, or if they have held or have held a managerial position responsible for KM for a minimum of five years". In the case of the company studied, all managers participating in the research meet these criteria, being considered "KM specialists", notably in the provision of IT services.

With the support of the Manager of the Strategic Planning and Management Advisory of the company, an *e-mail was sent* with the questionnaire with exploratory questions to the participants of the study. Of these, 12 responded in writing, via *e-mail*, and 4 were interviewed. The interviews lasted an average of one hour, being held in virtual meetings, and all participants were guaranteed anonymity of their identity and of the commercial and/or subjective information obtained in the presentation of the research results. The validity of the study was guaranteed through the formulation of the questions presented to the respondents, using a language style appropriate to their understanding and to the business world, especially those related to the use of KM in IT, without the use of academic language. The questionnaire was previously validated with three PhDs in CG, who also took the pre-test to fill out the questionnaire and suggested writing improvements.

The relatively small sample size can be justified based on the considerable experience of the research population in the field of KM. The justification for the sample size is also acceptable due to the fact that the company has 50 years of experience in advising state and national public organizations on IT, and the KM program of the company studied has 20 years of activity. Thus, the sample is characterized as intentional non-probabilistic (COOPER; SCHINDLER, 2011).

As the findings were collected as part of an academic study, the questions about the decline of KM were presented to the interviewees only at the end of the interviews, in order to obtain an honest answer less committed to any business problems of KM implementation that they may have had in their experiences in the company. During the virtual meeting, it was avoided to debate the personal position of the researchers in relation to the subject, not least because it is unlikely that people involved in the KM profession for so long do not have some criticism in relation to problems that have occurred over the years, even because of the characteristics of being a public company that has politically defined positions, as well as some compliments to be made, since she is the source of his economic livelihood. More specifically, we tried to address the arguments that would be subject to verification or refutation by the interviewees, who were asked to reflect on the issues presented, asking them to explain reasons and give examples to illustrate their position on the issues.

At the same time, a review of the specialized academic and commercial literature on KM was carried out, as complementary research to the results obtained in the case study, according to the procedures recommended by Machi and McEvoy (2022).

For the analysis of the data collected in the semi-structured interviews, which were transcribed and categorized, the NVivo software (JACKSON; BAZELEY, 2019) for content analysis, as suggested by Vanover, Mihas and Saldaña (2021).

In addition to the data formally collected in the questionnaire and in the interviews, the "field notes" were also included in the analysis, as suggested by Emerson, Fretz and Shaw (2011). "Field notes" are a tool widely used in qualitative research, especially in ethnographic, anthropological and sociological studies. They are detailed records made by researchers to capture their observations and experiences and consist of comments collected informally during meetings with interviewees, often obtained before or after formal data collection, in informal conversational situations. The main quotes that characterize the perspectives and trends of KM were selected to illustrate the points discussed and the results found from the information obtained from the managers of the company studied. The analytical process was documented to increase the validity and reliability of the study, with the inclusion of citations from these managers, presented in italics in the text of the article, with the identification of the respondents by coding according to the chronological order in which the answers were received, but without the explicit identification of the managers, as recommended by Hair Jr. *et al*. (2005).

The consolidation of the analysis of the results was carried out with a data triangulation, combining information from primary and secondary documents of the company studied, from the answers to the questionnaire and from the interviews carried out. This process, as guided by Denzin *et al*. (2023), strengthens the robustness of the results and provides a more comprehensive and multifaceted understanding of the phenomena studied.

4 SEARCH RESULTS

4.1 PERSPECTIVES IN KM

The analysis of the perspectives in KM is the result of the evaluation of the perceptions of the managers of the company studied about what is the future of KM in the business environment, whether it is necessary to reformulate the vision of KM as a business strategy, and whether KM in companies is declining or continues to evolve. The managers' answers to the questions raised reveal their perceptions about the reality of KM as a business strategy.

Managers recognize that KM is adapting to technological change that generates innovations and trends, not only being influenced by them, but also offering experiences comparable to those found in reference companies in knowledge-intensive economic sectors. One of the managers highlighted: "*I believe there is no KM without it being inserted in the business strategy. The study, prospection and implementation of KM models to take advantage of trends are fundamental for the consolidation of an effective business strategy, and this requires investments that need to be justified and measured in terms of return.*" (G9).

This indicates that KM in the studied company is evolving in response to market demands and undergoing changes in the methods of consolidating the use of organizational knowledge to generate intellectual capital. Modern technological tools facilitate access to corporate knowledge in a mobile and flexible way, overcoming limitations of time and space. Knowledge is now conveyed to employees in a more processed and concise manner, in a question-and-answer format, rather than complex, branching work practices.

In addition, managers are increasingly integrating their systems with other platforms, enabling a continuous and more complete flow of knowledge, something that was unimaginable a few years ago. "*The future of KM as a business strategy indicates the use of knowledge platforms that promote a culture of continuous learning and encourage innovation. This is demanded by our customers in IT projects*." (G12).

Over the years and the evolution of technology, effective mechanisms for "pushing knowledge" have been developed, complemented by mechanisms for "pulling knowledge". "Push" mechanisms refer to the traditional approach to information distribution, in which content is sent (or pushed) to users. Examples of this include traditional classes, *newsletters*, emails, *and in-app* push *notifications*. The idea is that the organization or the individual who holds the knowledge decides what is important and proactively distributes it. "Pull" mechanisms put users in control of the information they receive. From this approach, it is individuals who actively seek the knowledge they need, when they need it. This may involve searching the internet, accessing databases on demand, or utilizing interactive tools such as discussion forums and online learning platforms. With the advancement of technology, especially with the internet and mobile devices, methods of pulling knowledge have become more

feasible and popular. People can access a vast amount of information instantly and in a self-directed way. However, there is still significant room for pushing methods, especially in educational and professional contexts where specific information needs to be guaranteed to all members of an organization. The combination of these methods creates a more dynamic and adaptive learning environment, allowing people to not only receive important information efficiently but also actively seek out more knowledge as they need and interest.

Current technological advances focus on intelligent systems capable of identifying customer needs and providing appropriate answers, reducing the need for active search for knowledge. In addition, current KM systems and applications personalize content for users, using *machine learning* (ML) techniques to identify patterns of behavior.

Managers also observe a transformation in the concept of knowledge consumption. The search capabilities of search engines like Google, including free text search, autocomplete, and results targeting, are no longer seen as sufficient for users. Knowledge and the way it is accessed and used are undergoing a significant reconfiguration in contemporary business and technological contexts. In the current era, the expectation is to get a simple answer, focused on specific needs, as if you were in a conversation with an expert human being, as with generative AIs such as ChatGPT, for example. This innovative experience is offered to end users through generative AI with *chatbots* and generative AI. "*Chatbots with generative AI and natural language processing are interaction tools best suited to current technology and represent a significant development in the AI-based human-machine interface for the acquisition, assimilation, transformation, and application of knowledge traditionally carried out."* (G2, G4).

The evolution in KM is not only reflected in the flow of knowledge, which is no longer carried out only from the top down, but flows through relationships also from the bottom up, bidirectionally. The managers say that "*the transformative power of internal ICT tools and solutions allows for more collaboration.*" (G4). The development of new products and services and the creation of knowledge is also expected with the emergence of cognitive engines, ML and other AI resources that will allow the elaboration of an automated business taxonomy, a process that today requires human intervention. "*KM needs to use AI and Data Science resources to find more effective ways to share data and information, and thus also add value to its solutions to customers, with agile adaptability*." (G7). "*The goal 20 years ago was to find knowledge available outside the company; Today, the challenge is to accurately find the right knowledge available, because there is too much information. Periodically, KM reinvents itself in the company, and we participate in this process ensuring that it goes smoothly. The history of KM in the company has created an environment conducive to collective intelligence in the company, increasing the generation, sharing, and application of knowledge gained through collaboration and synergy between teams.*" (G1, G12).

The concept of collective intelligence, as proposed by Levy (2022), is based on the idea that the sum of a group's skills, experiences, and knowledge is greater than that of any individual alone. The author describes collective intelligence as a form of intelligence distributed throughout the world, constantly improved and coordinated in real time, resulting in the effective mobilization of skills. He emphasized that the basis and goal of collective intelligence is the mutual recognition and enrichment of individuals, rather than the idolatry of fetishized or hypostatized communities. This concept was inspired by the invention of the internet and he predicted that it would lead to a fundamental shift in the way we think about ourselves and knowledge, no longer seen as a set of established facts, but as part of an ongoing project of knowledge construction that includes all of humanity.

In practice, as stated by the Manager of the Strategic Planning and Management Advisory of the company studied, "*it involves the creation of environments and systems that facilitate the sharing of ideas and information, stimulating collaboration and the active participation of the company's members. This can include the implementation of information and communication technologies such as intranets, enterprise social networks, KM systems, and the use of creative user-centered methodological approaches that allow for the exchange of information and the joint construction of solutions."* (G1).

In addition, collective intelligence implies valuing and recognizing the diversity of thoughts and experiences in the company. This means encouraging participation from all hierarchical levels and areas, recognizing that each individual can contribute unique and valuable perspectives. "*The expected result of collective intelligence is the improvement of the organization's capacity for innovation, operational efficiency, and decision-making, as collectively generated solutions and ideas tend to be more comprehensive, well-founded, and better. In addition, it fosters a more engaged and collaborative organizational environment, in which knowledge is seen as a valuable shared resource."* (G1). "*I realize that we still insist a lot on formal education with lectures, classes and courses and we have made little progress in consolidating a corporate education based on sharing experiences and lessons learned, learning by doing, mentoring and coaching.*" (G8). "*The KM process needs to be modernized and remain a priority in the company's strategic management. It is no longer possible to see KM only as training, it is necessary to align with the purpose of the business to meet the needs of customers and society.*" (G16).

The managers were asked what their opinion is about the statements about the decline of KM as a business strategy, with a view to ratifying or not previous studies already cited on this question. This assertion was presented to managers without explicitly revealing to them what the negative statements about KM are. Some have claimed that it is indeed declining from what it was 20 years ago when it was introduced to the company. Others said they already knew these criticisms from readings and debates in forums in which they participated. Most believe that the origin of these criticisms comes

from the disconnect between academia and companies, restricted or erroneous knowledge of the term KM, and a view only of KM's past, without considering its evolutionary aspects that accompanied the technology and the needs of the market and society.

In this sense, managers believe, for the most part, that negative statements about KM show a mismatch between what the academic environment presents in undergraduate and graduate curricula and what is being done by companies in the business world. This leads to a lack of understanding of the objectives of KM and its importance in the Knowledge Economy, as it should be a means of achieving business objectives. "*KM is not an end in itself; Knowledge-intensive companies do not manage organizational knowledge because it is a fad, but seeking to add value to the business.*" (G8). "*It is impossible to implement something without knowing what it is for. I am clear that KM must support business objectives and goals.*" (G10). "*KM needs to be more strongly present in business strategy and market positioning for its solutions to be implemented to sustain changing demands in an increasingly volatile, uncertain, complex and ambiguous landscape*." (G1).

From the managers' answers, it can be stated that the criticisms present in the literature about the decline of KM contradict their opinion. "*KM is getting stronger and constantly evolving in our company! It will continue to evolve as the company adheres to the new technologies available, especially in its integration with Data Science and AI. I perceive these criticisms as a warning for KM not to be thought of in isolation, but strategically, and to permeate all processes and areas of the company*." (G3, G5, G7). "*I disagree with these criticisms, but I understand that it is really a challenge for companies to keep KM active and valued. This will only be possible if it is always aligned with business objectives and supported by a culture that values collaboration and continuous learning."* (G6). *"We live in the Age of Knowledge and KM gives the focus to what is really important for an IT services company in this context*." (G8). "*Our perspective will always be oriented towards business and the value generated for society and citizens. However, academia may have more in-depth concepts and theories, which can lead to these criticisms. But, here in the company, we empirically realize how important KM is and this is due to a strong connection of our teams with the application of KM methodologies to the real business need.*" (G1).

It can be seen that the managers partially dismissed the criticisms and expressed a strong belief in the value of KM as a business strategy. "*People who are not in the IT area and do not use KM in their daily lives have difficulty understanding it and are even surprised by the fact that there are professionals who work in this area. When I talk to people who are not in the area, I notice that it is difficult for them to understand, without me explaining, how KM helps me in my daily work and how much I need it to work better*." (G4). "*KM here in the company is not declining. It is so successful that we don't even realize that we do it all the time; It's something transparent to us.*" (G15). Statements like these were repeated by managers, accentuated by the statement that "*many organizations practice*

KM, but they don't always call it that, but here in the company it is already internalized in our organizational culture." (G3, G5, G9, G12). These statements recall the expression created by the first manager of the company's KM area, which was placed in the signature of all documents: "*Doing KM all the time!*" (G1, G2).

The managers also mentioned that the criticisms of KM may be based on opinions about outdated academic curricula and unsuccessful cases of implementation and that this gives an erroneous idea that there is nothing more to learn, teach, research or innovate in KM. In this regard, one of them testified that while doing a master's degree in KM at a renowned Brazilian academic institution, he found himself referring his professors to a professional and contemporary perspective on what is actually being done in companies in terms of KM. He found that academic researchers focus excessively on concepts, definitions, theories and models, to the detriment of the connection with what is being done in the practice of companies. "*The academy has been very theoretical and does not address the applied aspects of KM very much. But KM's main customers are companies, public agencies and non-profit organizations, which are not very fond of theories, seek a return on their investments in KM projects and want to see something tangible that adds value. The lack of focus of some professors and academic researchers without business practice in KM explains their critical position on the subject*." (G2).

It is observed that there is a recurring reason identified by the managers, who sought to emphasize their professional experience and connection with the work in the area as a basis for rejecting the allegations of the decline of KM. "*We are working in the field and we see what happens, based on observations of the needs and expectations of our customers.*" (G7). "*We experience the company's challenges with KM in application in software development on a daily basis.*" (G1). The managers suggest that researchers connect with the work in the area by going to companies to understand the perspectives and trends of KM *in loco*. The expression of this opinion can be seen in the quote: "*It is necessary to go to companies, talk to those who experience the difficulties of using KM, no longer debate only based on theories and academic models. Companies need to be asked, for example, how many projects have failed because knowledge has not been properly transferred to the people involved as part of lessons learned in KM projects. It is very important to talk to business managers and find out how they experience their difficulties. The academic community needs to get in the field and see KM in action to be able to better express opinions about KM."* (G2).

Managers also attributed the criticism to the lack of consensus on a more widely accepted definition of KM. "*I would like to know what is the definition of KM that these people who criticize it use; it would be good to talk to them to better understand what they mean, and perhaps update the term KM for them and for those working in the area*." (G1, G3, G4). From these statements, it is noted that statements in the spirit of the "last gasps" (DAVENPORT, 2015) of KM may represent a restricted

conception adopted based on a more technological issue, while it is "*something that involves people, methods, processes and technology.*" (G1,G2,G3,G4).

Many managers believe that KM is inappropriately perceived as another term for enterprise collaboration platforms, even though this is only one of the possible technological solutions currently available. In this regard, the company's Strategic Planning and Management Advisory Manager said: "*Even if some people believe that a platform KM solution is necessary for internal knowledge sharing, there are other useful ways to share, depending on technological developments. Just like the major changes that are taking place in KM, organizational platforms will also evolve technologically.*" (G1).

The results of the research also indicate that the restricted or partial conception of the term KM is also based on a depreciation of the field in favor of technology. Many hardware and software vendors use distorted sales pitches to co-opt potential customers, looking only at the past of KM and technology, without considering that it depends on methodological and business aspects, such as connecting KM strategy to business objectives, defining knowledge flow processes, developing quality content, defining KM functions in the organizational structure, and manage organizational change based on KM projects. In summary, managers believe that a comprehensive perspective is needed when analyzing KM. "*Those who do not see KM comprehensively do not understand its true importance. If you see KM as an end-to-end process, you will see that it is very active in enabling the life cycle of the knowledge resource in companies, as we try to do in our IT projects.*" (G10). It should be noted that the company follows the logic of the knowledge resource life cycle and a systematized organizational change management methodology to implement systems, as recommended by the Project Management Institute (PMI, 2021).

In the opinion of managers, KM suffers from fundamental misconceptions that have probably led to statements about its decline. They believe that in light of the terminology incorporated since its inception, KM is unfairly perceived as antiquated, archaic, conservative, and ineffective. Some have noted that the term KM sometimes gives a bureaucratic image to the subject, due to the use of the word "management." Others added that the term is undefined due to the inclusion of the word "knowledge", which is quite generic and subject to interpretation. Still, some managers believe that KM is mistakenly understood as synonymous with document management. Despite the fact that other managers have noted that KM did include these document management solutions in the past, the link between this and the criticism is exaggerated. One of the managers summed it up by saying that "*KM has been around for 20 twenty years in our company, but there is no connection between what was called KM when it first emerged and what we do here today. KM itself is not in decline, it has changed and will continue to change.* However, *critics tend to look at what she was, failing to look at what she is today and what she has included in her scope over these 20 years of evolution. That is, those who criticize and see a bleak future for KM are not aware of the journey it has traveled."* (G3, G5).

All managers expressed agreement that "*the need for strategic use of KM exists and will continue to exist; Because successful companies are based on knowledge.*" (G1,G2,G3,G4). "*Knowledge is an asset, and its value will continue to increase.*" (G3). Some emphasized that "*the demand for KM is increasing, as there is no company that does not need the management of the knowledge resource. It is a necessity of all economic sectors, which stands out in any company, regardless of the sector to which it belongs.*" (G3,G4,G12). In the Knowledge Age, "*knowledge is increasing exponentially. Therefore, it also quickly becomes obsolete, something that further reinforces the need for its management*." (G4).

KM's change also lies in the fact that the characteristics of the world of work are constantly changing. "*Employees change jobs faster than before. Therefore, knowledge sharing is used to strengthen employees' connection with the company and, at the same time, give them a sense of belonging to build meaning in the organizational culture*." (G4). In this regard, Shekar (2021) states that all companies need to manage their KM to improve organizational development, learning management, innovation management, data and information management, customer relations, human resource management, and risk management. An effective KM system based on the integrated requirements of ISO-9001:2015 and ISO-30401:2018 would increase the resilience and adaptability of companies to the new order of the post-pandemic world, regardless of the type of economic sector. With the systematized Knowledge Management System (CMS), companies could better manage the knowledge lifecycle, use KM methodologies, tools, and processes to develop knowledge, and map organizational knowledge to meet the requirements of these standards in a step-by-step process.

Research in the area shows an increase in world conferences and even growth in the global market; one that the profession, which was "*exercised by a few and is now used in all sectors, is increasingly relevant to companies."* (G4,G10,G11). In this sense, Forsgreen (2021) argues that technological improvements and the development of automation processes dedicated to the creation and consumption of knowledge, as well as the increase in the financial revenues of technology providers and the accelerated growth of the hardware and software market are indicative of the growth in the formal use of KM by companies.

From time to time, managers come across members of senior management who object to the use of the term KM. They believe that this fear is due to the fact that many companies have failed in their past experiences of KM solution implementation projects, especially in the KM 2.0 stage, as Lima and Redaelli (2024) point out. For some of them, a move away from the term KM as it was seminally understood is taking place, although it is clear to everyone that the company needs KM, practices KM and will continue to manage knowledge in the future. "*It is important to reformulate KM when we see that we are in a scenario in which AI is increasingly used. I believe it is time to demonstrate how*

important KM is to identify differential mechanisms that generate value and develop processes to generate alternatives to organize all this knowledge to achieve the best results." (G7).

Almost all managers expressed total acceptance of the term KM to designate the process of the knowledge resource management cycle in organizations, as it reflects well what it proposes to do. "*It captures the essence, the need to manage organizational knowledge.*" (G2). However, they concluded by saying that there is a probability that the name of the field of study will change in the future, and they predict this, although, in their opinion, it will be nothing more than the use of new buzzwords and may not even help to change the incorrect or partial conceptions of KM. "*In the future, KM will be restructured as a pillar to foster and boost innovation, new business and management models, new products and services, and the adoption of organizational competencies that meet current and future market demands, with the establishment of objectives and initiatives aligned with these factors and that contribute to the effectiveness of organizational* strategic guidelines." (G14). Few managers expressed reservations about the terminology of the discipline, claiming that it does not actually reflect their practice. "*I think what we do is much more than just managing knowledge. We manage processes, relationships, communication and recognition. This terminology gives the impression that what* we are *doing is only managing knowledge. But no, we go beyond that!*" (G1). Regarding this issue, the managers said: "*I don't know if reformulating KM, but going through a process of continuous improvement is necessary, as this can establish the best way to work with it in the company. Some people still see KM as just a concept, something far from the teams that serve customers at the end. It is necessary to bring people to debate the subject.*" (G10). "*I believe it is always time to adapt business guidelines to the moment in which we live. In the case of KM, it is important to incorporate current technologies and also always be aligned with the company's strategy*." (G11). "*KM needs better marketing to show its value to companies, exposing results obtained."* (G16).

These statements illustrate the reasons why rational people believe in various forms of disinformation, as corroborated by the assertion attributed to T. S. de Eliot: "When there is much to be known, when there are many fields of knowledge in which the same words are used with different meanings, when everyone knows a little about many things, it becomes more and more difficult for anyone to know whether he knows what he is talking about or not." (Jacobs, 2019, p. ix). And also the famous quote from Galileu Galilei (2011): "In the long run, my observations have convinced me that some men, when thinking retrospectively, first establish some conclusion that, because it is their own or because it came from a person in whom they trust absolutely, marks them so deeply that it becomes impossible to remove them from their heads. The arguments which support such a fixed idea, which they themselves have elaborated or heard from others, however simple and stupid they may be, gain their acceptance and their instant applause. On the other hand, when information comes to their attention that disproves them, no matter how ingenious and conclusive, they regard it with disdain or

fury, when they do not get sick. Taken by passion, some would not be begged to plot to suppress and silence their adversaries."

KM in the Age of *Data Science* and AI is evolving to be more collaborative and interactive. AI not only facilitates data analysis but also allows you to develop more intuitive and personalized platforms for knowledge sharing. "*We are moving towards KM systems that not only store information, but also connect it with the right people at the right time, thanks to AI. This transforms knowledge into a living, constantly updated and accessible resource*." (G6). These changes denote the need for companies to adopt a more dynamic and adaptable mindset towards KM, preparing for the continuous evolutions brought about by AI. "*I believe that we are just at the tip of the iceberg, still incipient in the application of the theme, with many possibilities and opportunities that already arise in the world of AI for KM, from the production and qualification of knowledge, in a more agile and creative way and without prejudice to human contribution and participation, but enhancing it, including in approach and processes through which a collective intelligence emerges that acts from the conception to the implementation of solutions and innovations that facilitate and improve processes and products and support decisions and, in the case of government, that bring improvements, reformulate or create new public policies*." (G14).

In this sense, Bolisani and Handzic (2016) and Hilger and Wahl (2022) suggest designing and implementing a single technology or a complete set of KM systems, in order to define strategies and prioritize features and functions, to be designed with the end user in mind, that generates significant business value for companies. This can be summed up in a quote that sheds new light on the question of the need for a rebranding of the discipline: "*It is a matter of time. The decision of whether or not to change the terminology is due to marketing needs. But in essence, it hasn't changed. I see the future of KM as something fundamental for the survival of organizations in a world with high volatility of professionals and increasingly shorter technology cycles. Documenting efficiently and offering very efficient organic search systems is essential. In this context, the use of AI to both document and find content can be extremely positive.*" (G13).

KM is rapidly transforming to adapt to the new demands imposed by digital transformation, the exponential use of data, and the advent of AI. With AI, there is a redefinition of what it means to manage and utilize knowledge in companies. "*AI is empowering us to automate data collection and analysis at scale, redefining our approach to KM. It's no longer just about storing information, but about how we extract valuable insights from that data efficiently.*" (G5). This points to a trend of deeper integration between KM and AI, in which the latter becomes an essential tool to enhance the former.

The application of data science in business, powered by AI, is also revolutionizing how companies make decisions and shape strategies. With the advancement of AI, the utilization of data science will no longer be limited to postmortems; It will empower organizations to predict trends,

identify emerging opportunities, and respond to challenges in real-time. "*The integration of AI with data science is allowing us to not only understand what happened, but also anticipate what will happen. This is transforming data science into a proactive, rather than reactive, tool for business decision-making.*" (G12).

This evolution is opening up new horizons for businesses, allowing them to be more agile, innovative, and competitive in a market that is increasingly driven by data and advanced analytics. "*We are still groping in this terrain. On the one hand, this opens up infinite possibilities, simplifications of complex problems, considerable expansion of scope. On the other hand, we have an ethical and legal responsibility that holds us back from applying AI more broadly. Gradually, we are inserting AI into some processes. In this more conservative context, we have gains and no losses, but we advance slowly*." (G9). "*AI has been around since the 1960s, but its applications have been enhanced by big data and the drop in storage and processing costs. AI continues to be a branch of computing in which you want a machine to do something that we teach it faster. Teaching AI is training models and algorithms, still planned and orchestrated by humans. Even with the reasoning mimicked, they are still humans in control. The trends of AI are similar to those of the emergence and popularization of the internet. We have more tools to do tasks faster, but humans are the ones who determine which tasks to automate and which area to serve/develop. Some use AI for war, others to distribute food around the world, the technology serves many purposes, but the result could be more collaborative than competitive*." (G16).

All of these views are supported by the review of the specialized academic and commercial literature, which shows that, in relation to the future, the identified perspectives are expected to materialize and take advantage of the trends, which reflect a movement towards a more dynamic, integrated and future-oriented KM, which takes advantage of new technologies and addresses the emerging needs of business and KM specialists (ALVARENGA NETO, 2012; BOLISANI; HANDZIC, 2016; BOLINASI; BRATIANU, 2018; JOHANESSEN, 2018; KAR (2018); DAVENPORT, 2019; BETTIOL; HOLFORD, 2020; GARCIA; SOSA-FEY, 2020; TEGMARK, 2020; ANYACHO, 2021; DI MARIA; MICELLI, 2021; GARTNER GROUP, 2021; LIEBOWITZ, 2019A, 2021; KRYIVINSKA; PONISZEWSKA-MARAŃDA, 2021; MOORE, 2021; CHEN; NONAKA, 2022; HILGER; WAHL, 2022; KRAGULJI, 2022; LEE; MAJUMDER; DEY, 2022; QIUFAR, 2022; RHEM, 2022; BRATIANU; HADZIC; BOLISANI, 2023; DALKIR, 2023; DEL GIUDICE; SCUOTTO; POPE, 2023; RHASKAR, 2023; SULEYMAN; BECERRA-FERNANDEZ; SABHERWAL; KUMI, 2024).

In the direction of the research carried out, the main perspectives identified by the study are:

KM and ISO-9001 and ISO-30401: By integrating a Knowledge Management System (CMS) with international standards such as ISO-9001 and ISO-30401, companies can align the quality

management of their processes with KM practices, resulting in an integrated approach that improves KM effectiveness. This combination creates an environment where knowledge is systematically managed, contributing to quality objectives and organizational performance (BOUHNIK; GIAT, 2015; NORTH; KUMTA, 2018; COLLISON; CORNEY; ENG, 2019; MILTON; LAMBE, 2019; SHEKAR, 2021).

KM audit: KM auditing connects discipline to business strategy by establishing clear strategic objectives and evaluating effectiveness with methodologies such as the *Balanced Scorecard*. This allows for a deeper understanding of the company's needs and opportunities, contributing to more effective knowledge management (SERRAT, 2017; KAPLAN; NORTON, 2019; GARCIA-PEREZ; GHERISS; BEDFORD, 2020; CHEN; NONAKA, 2022; LAMBE, 2023). As one company manager noted, *"KM is internalized in the organizational culture, but it needs to level up and generate specific results in the company's strategic plan."* (3).

KM and Organizational Learning: The increasing focus on continuous learning and professional development in KM involves creating organizational cultures that value learning and the constant updating of knowledge. The KM experience is customized to meet individual needs, fostering collaboration and innovation (MULGAN, 2019; BANASIEWICZ, 2022; CHEN; NONAKA, 2022; AXE; DAVIM, 2022; MALONE; BERNSTEIN, 2022).

KM and Communities of Practice: Communities of Practice (CoPs) function as vital platforms for KM, facilitating the exchange of ideas and promoting collaborative learning. Through CoPs, tacit and explicit knowledge is shared organically, contributing to organizational effectiveness (GARFIELD, 2020; CHEN; NONAKA, 2022).

KM and Hybrid Work: In the context of hybrid work, KM takes on a crucial role, requiring a more sophisticated approach to information sharing and management. The effectiveness of KM in hybrid environments is linked to the organization's ability to maintain quality communication and collaboration, regardless of the physical location of employees (BEDFORD; SANCHEZ, 2021; NEELY, 2021).

KM and Competitive Intelligence: The relationship between KM and competitive intelligence is complementary and synergistic. While KM deals with internal knowledge, competitive intelligence focuses on analyzing the market environment. Together, they provide a comprehensive understanding of internal and external resources, facilitating agile adaptation and innovation (LIEBOWITZ, 2019b).

KM and Data Privacy: KM and data privacy are intrinsically linked. An effective KM should always consider data privacy regulations, ensuring that information is used ethically and legally (SANFILIPPO; FRISCHMANN; STRANDBURG, 2021).

4.2 TRENDS IN KM

The main trends identified by the study are:

Lean KM: While traditional KM is often seen as overly complex, Lean KM simplifies this process, standing out as a critical component for the effective and efficient functioning of businesses. It focuses on identifying key employees, filtering the abundance of information into critical knowledge, and making it available efficiently. Lean KM eliminates unnecessary jargon and implements practical programs that emphasize lessons learned (FORSGREEN, 2021).

KM and Absorptive Capacity: KM is essential for developing the absorptive capacity of companies, allowing for the acquisition, assimilation, and effective application of external knowledge. This involves creating systems to capture and disseminate knowledge, establish a culture of continuous learning and innovation, and encourage collaboration (TIDD, 2021).

KM and Organizational Ambidexterity: KM is key to supporting organizational ambidexterity, helping businesses balance exploring new opportunities with exploiting existing resources. Effective KM practices enable companies to collect, share, and apply knowledge to underpin both aspects of ambidexterity (DRUMMOND, 2016; ABBOSH; NUNES; DOWNES, 2021).

KM and Data Science: The integration of KM with modern data science offers methods to extract valuable insights from large data sets and share that information across the enterprise. Together, they facilitate data-driven decision-making and foster innovation (BANASIEWICZ, 2022; MCBREEN; SILSON; BEDFORD, 2022; HAWAMDEH; SHANG, 2023; FILE; REDAELLI, 2024; REDAELLI; LIMA, 2024).

KM, Society 5.0, and Sustainability: KM is crucial in society 5.0, helping companies adapt to emerging technologies, innovate, and develop solutions to social and environmental challenges. it promotes collaboration and supports sustainable practices, aligning economic goals with social and environmental responsibility (HITASHI-UTOKYO, 2020; RHEM, 2022; CONTRERAS-MEDINA; BRAVE; DÍAS NIETO, 2023).

KM and Maturity Models: KM maturity models are valuable tools to assess and guide the development of a company's KM capabilities, identifying areas of strength and improvement (ARIAS-PEREZ; TAVERA-MESÍAS; SERNA, 2019; REGISTRAR; SILVA, 2019; GUNAWAN *ET AL.*, 2019; LIMA; REDAELLI, 2024).

KM and AI: The integration of KM with AI is a significant advancement in business strategies, optimizing the manipulation and utilization of information. This allows you to process and analyze large volumes of data, revealing valuable insights and contributing to more agile and accurate decision-making (HOLFORD, 2020; IANSITI; LAKHANI, 2021; ALGHANEMI; MUBARAK, 2022; MAJUMDER; DEY, 2022; JARRARI *ET AL.*, 2023; SCHMIDT; HUTTENLOCHER; KISSINGER, 2023; SCOTT; SHAW, 2023; BECERRA-FERNANDEZ; SABHERWAL; KUMI, 2024).

5 CONCLUSION

This article investigates contemporary trends and perspectives in KM, highlighting the current and future role of this field of study.

The research reveals that, contrary to the criticism of some experts about the obsolescence and decline of KM, it not only maintains its relevance, but constantly evolves, as aligned with the perceptions of managers working in the area and with what is recommended by the specialized academic and commercial literature. The research shows that KM should be perceived not as an end in itself, but as an organizational strategy to solve business problems, improve processes, products, and services, and enhance organizational performance. For this to occur, it is necessary to align KM practices with the strategic objectives of the business, especially in companies in knowledge-intensive economic sectors.

Regarding KM's perspectives, the study evidenced its ability to adapt and evolve in a business environment in constant transformation. Among the perspectives identified, the following stand out:

(i) compliance with ISO-9001 and ISO-30401 standards, suggesting a move towards standardization and continuous improvement of KM processes;

(ii) the KM audit emphasizes the importance of continuous evaluation of the effectiveness of field practices, aligning them with the company's strategic objectives and using metrics to assess their impacts;

(iii) organizational learning is also highlighted as a crucial aspect, underlining the ability of companies to adapt and learn continuously;

(iv) the growing adoption of communities of practice as platforms for knowledge sharing is also emphasized, highlighting the importance of collaborative spaces for innovation and collective learning;

(v) the rise of hybrid work requires adaptations in KM practices to support a geographically distributed workforce;

(vi) the growing importance of competitive intelligence highlights the need for a strategic approach to KM;

(vii) with the advancement of data privacy concerns, KM faces the challenge of managing information responsibly, needing to integrate it with strict data protection protocols to comply with relevant legislation.

Regarding the KM trends identified in the study, the following stand out:

(i) the use of *lean* philosophy in KM projects;

(ii) the management of absorptive capacity and organizational ambidexterity are emphasized, highlighting the need for companies to balance the exploitation of existing knowledge with the search for new knowledge;

(iii) the intersection between KM and data science reveals the importance of analyzing and interpreting large volumes of data in decision-making and strategy formulation. Companies are learning to extract value from large data structures, interpreting patterns and meanings, and turning insights into quick action;

(iv) the concepts of Society 5.0 and sustainability challenge KM to balance technological innovation with humanized knowledge management. This includes the need for KM practices that promote a harmonious integration between technological advances and human needs;

(v) the use of KM maturity models to assess the current stage and guide the development of new organizational capabilities;

(vi) the integration of KM with AI will be a significant advance to optimize the manipulation and use of information from the analysis of large volumes of data.

This study contributes to the field of KM by expanding its understanding as a business strategy, proposing new models and emerging strategies arising from the empirical findings derived from the case study, the experience of KM practitioners, and the literature review on KM, which offer practical insights and validate theories and models with real data from the business world.

As future studies, it is suggested to conduct more research focused on the continuous development of KM in companies in knowledge-intensive sectors, exploring the role of AI and other emerging technologies. This research will have the potential to renew and revolutionize KM, adapting it to the challenges and needs of the 21st century business environment.

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