IMPACTO CIENTÍFICO EDITORA

KNOWLEDGE MANAGEMENT IN THE DEVELOPMENT OF SCIENTIFIC RESEARCH: A COMPARATIVE STUDY OF RESEARCH GROUPS IN BRAZIL/PORTUGAL

GESTÃO DO CONHECIMENTO NO DESENVOLVIMENTO DE PESQUISAS CIENTÍFICAS: UM ESTUDO COMPARADO DOS GRUPOS DE PESQUISA BRASIL/PORTUGAL

GESTIÓN DEL CONOCIMIENTO EN EL DESARROLLO DE LA INVESTIGACIÓN CIENTÍFICA: UN ESTUDIO COMPARATIVO DE GRUPOS DE INVESTIGACIÓN EN BRASIL Y PORTUGAL

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ABSTRACT

Knowledge management (KM) has become a strategic factor for the development and improvement of scientific research, as it facilitates the organization, sharing, and efficient use of information generated in research groups. This study compares KM practices in research groups in Brazil and Portugal, aiming to identify similarities, differences, and critical factors

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that influence scientific productivity and innovation. The methodology adopted combines an integrated literature review and semi-structured interviews with researchers coordinating research groups from both countries. The results indicate that, while Portuguese groups show greater integration with digital knowledge management platforms and policies to encourage international collaboration, Brazilian groups stand out for their thematic diversity and resilience in the face of technological infrastructure limitations. It is concluded that strengthening knowledge management practices, coupled with the creation of more systematized and valued institutional policies, significantly contributes to the efficiency and visibility of scientific production, promoting the consolidation of collaborative networks and knowledge transfer.

Keywords: Knowledge Management. Scientific Research. International Comparison. Brazil. Portugal.

RESUMO

A gestão do conhecimento (GC) tem se consolidado como um fator estratégico para o desenvolvimento e aprimoramento da pesquisa científica, uma vez que facilita a organização, compartilhamento e aproveitamento eficiente das informações geradas nos grupos de pesquisa. Este estudo compara práticas de GC em grupos de pesquisa no Brasil e em Portugal, com o objetivo de identificar semelhanças, diferenças e fatores críticos que influenciam a produtividade científica e a inovação. A metodologia adotada combina revisão integrada da literatura e entrevistas semiestruturadas com pesquisadores coordenadores de grupos de pesquisa de ambos os países. Os resultados indicam que, enquanto os grupos portugueses apresentam maior integração com plataformas digitais de gestão do conhecimento e políticas de incentivo à colaboração internacional, os grupos brasileiros destacam-se pela diversidade temática e pela resiliência frente a limitações de infraestrutura tecnológica. Conclui-se que o fortalecimento das práticas de Gestão do Conhecimento, aliado à criação de políticas institucionais mais sistematizadas e valorizadas, contribui significativamente para a eficiência e visibilidade da produção científica, promovendo a consolidação de redes colaborativas e a transferência de conhecimento.

Palavras-chave: Gestão do Conhecimento. Pesquisa Científica. Comparação Internacional. Brasil. Portugal.

RESUMEN

La gestión del conocimiento (GC) se ha convertido en un factor estratégico para el desarrollo y la mejora de la investigación científica, ya que facilita la organización, el intercambio y el uso eficiente de la información generada en los grupos de investigación. Este estudio compara las prácticas de GC en grupos de investigación de Brasil y Portugal, con el objetivo de identificar similitudes, diferencias y factores críticos que influyen en la productividad científica y la innovación. La metodología adoptada combina una revisión bibliográfica integrada y entrevistas semiestructuradas con investigadores que coordinan grupos de investigación de ambos países. Los resultados indican que, si bien los grupos portugueses muestran una mayor integración con plataformas digitales de gestión del conocimiento y políticas que fomentan la colaboración internacional, los grupos brasileños destacan por su diversidad temática y resiliencia ante las limitaciones de la infraestructura tecnológica. Se concluye que el fortalecimiento de las prácticas de gestión del conocimiento, junto con la creación de políticas institucionales más sistematizadas y valoradas, contribuye significativamente a la eficiencia y la visibilidad de la producción científica, promoviendo la consolidación de redes colaborativas y la transferencia de conocimiento.

Palabras clave: Gestión del Conocimiento. Investigación Científica. Comparación Internacional. Brasil. Portugal.

1 INTRODUCTION

Knowledge Management (KM) has become, in recent decades, an important part of scientific, technological, economic and social advancement (MACHADO, SARTORI & CRUBELLATE, 2017; DAMIAN, SILVA & PINTO, 2020). The concept of Knowledge Management goes beyond the definitions of information or data management, as it encompasses processes that work together and help each other in the creation, sharing, retention, retrieval, use and application of knowledge (NONAKA & TAKEUCHI, 1997; HECKLER MOTA, MUNZ FERNANDES & VICENTE DOS ANJOS, 2023.). Thus, KM becomes a relevant strategy for organizations and society (CORREA, et. al, 2023). In scientific research, Knowledge Management presents itself as a relevant scientific field because it helps to form collaboration networks, improves research processes, stores scientific data and increases the visibility and impact of the results obtained. (BATISTA, 2012; MACHADO, SARTORI & CRUBELLATE, 2017; FIRME, MIRANDA & SILVA, 2018).

As universities and research centers are sectors that invest in innovation, it is essential to promote a work environment that focuses on the intangible value of knowledge, according to Terra (2005).

Agostineto, Mazon & Soares (2022), state that the value of a scientific institution is linked to its ability to transform data and information into useful knowledge, which is in line with the organization's strategy. This happens through the interaction between people, communities and society. Angeloni (2008) and Silva & Burger (2017) highlight that intellectual capital in research organizations is created jointly and collaboratively. Knowledge Management is a tool that helps to improve learning within the organization, to develop new strategies and to promote constant innovation (SVEIBY, 1998; CORREA, et. al, 2025).

In the academic sphere, the implementation of Knowledge Management creates a favorable environment for the circulation and reuse of scientific knowledge (ZIVIANI et al., 2025). In this regard, Batista (2012, p. 47) observes that "the lack of structured knowledge management policies tends to generate islands of information, making it difficult to integrate areas and formulate strategic decisions". Valentim (2008, p. 32) argues that, in the academic context, the interaction between information and knowledge enables "the creation of new knowledge and the strengthening of collaborative practices", which directly contributes to the consolidation of the scientific and extension mission of universities.

Complementing this perspective, Angeloni (2008) points out that integrated information management not only reduces redundancies, but also expands knowledge sharing and favors innovative processes. This relevance of systematized practices in the

institutional sphere is corroborated by Carvalho, Fleury & Lopes (2020) and Correia, et al., (2023).

In a convergent way, Terra (2005) and Correa, et al. (2025) emphasize that KM acts as a vector of organizational integration, allowing a more robust synergy between areas, departments and, especially, between individuals. This dynamic enables knowledge to be shared continuously, enhancing learning, innovation and, ultimately, innovative organizational objectives or results (VALENTIM & CASTRO, 2020). Thus, it is evident that the adoption of structured models of knowledge management not only contributes to overcoming informational dispersion, but also expands the production of new knowledge and qualifies knowledge governance in public and private organizations, as well as social organizations and agencies that promote and manage scientific research, such as FCT, CAPES and CNPq. and, significantly, in universities (BEN ARFI, et. al, 2025; CARVALHO & FERREIRA, 2020).

In the same sense, Sereno (2017) emphasizes that knowledge management in Portuguese universities has proven to be an effective tool for aligning scientific policies and institutional practices, promoting greater efficiency in research processes and scientific dissemination.

The approximation between the contexts of scientific research between Brazil and Portugal offers opportunities and reduces barriers for comparative studies on KM applied to scientific research (FCT, 2022; CNPq, 2025). In Brazil, science, technology, and innovation policies have progressively incorporated KM practices, especially through open access platforms, institutional repositories, regulatory changes, and incentives for interdisciplinarity (FIALHO, et. al, 2016; DIAS, 2025). In the Portuguese environment, in turn, it stands out for the consolidation of integrated scientific information systems, such as the Ciência Vitae Curriculum and the Open Access Scientific Repository of Portugal (RCAAP), which contribute to the systematization and dissemination of knowledge produced effectively (PIMENTA & GOMES, 2019).

According to Heitor (2015) and Carvalho (2019) state that KM practices in Portuguese universities reflect a more mature and consolidated institutional management culture, guided by public policies that value transparency, knowledge transfer, and collaboration among researchers (DIAS & GONÇALVES, 2020). In Brazil, on the other hand, there is a diversified research ecosystem, in which research groups, coordinated by the National Council for Scientific and Technological Development (CNPq), constitute fundamental spaces for the production, storage, retrieval, and sharing of innovative knowledge (DAMIAN, SILVA & PINTO, 2020).

In the case of universities and research groups, effective knowledge management makes it possible to transform scientific information into applicable knowledge, expanding the social and scientific impact of investigations (BRITO, et al., 2022; DA COSTA, et al., 2023). In Portugal and Brazil, KM has been gradually incorporated into science, technology and innovation policies, influencing the way researchers organize and share results (FIALHO, et. al., 2010). According to Carvalho (2019), the adoption of KM practices in academic environments promotes greater integration between different areas of knowledge and strengthens international scientific cooperation.

The comparison between the Brazilian and Portuguese contexts reveals significant similarities and differences in the institutionalization of KM (FUNCHAL, et. al, 2023). While Brazil has a broader and more decentralized research system, with a strong presence of open access policies and collaborative networks, Portugal stands out for the consolidation of integrated systems for the management and evaluation of scientific production (DIAS & GONÇALVES, 2020; CNPq, 2025b).

In view of these particularities, it is relevant to analyze how KM is incorporated into the daily life of research groups in both countries, considering its instruments, strategies, practices and results. However, comparative analysis allows us to understand how cultural, institutional and technological dimensions influence the management of scientific knowledge (ALCARA, et. al, 2014; BAPTISTA & COSTA, 2019). As Davenport & Prusak (1998) point out, KM is effective when the organizational culture is focused on collaboration between subjects and based on the relationship of trust, thus having a favorable environment for the production of knowledge.

Thus, this study has the general objective of analyzing the role of Knowledge Management in the development of scientific research, with a comparative focus between Brazilian and Portuguese research groups seeking to fill the gaps in the scientific studies developed by David (2013), Coxe; Rocha & Hoffmann (2019) and Brito, et. al. (2022). Specifically, it seeks to: (a) identify the KM practices and tools used in the research groups; (b) understand how these practices influence scientific production and dissemination; and (c) propose strategies to strengthen cooperation between the two contexts.

The justification for this study lies in the need to understand knowledge as a strategic resource for the sustainable development of science and society, as highlighted by Santos & Pereira, (2020) and Santos & Amaro, (2021). As Pimenta (2020) argues, the institutionalization of KM in universities contributes to the consolidation of innovation policies and to the alignment between teaching, research, and extension. In addition, comparative studies between Brazil and Portugal offer an international perspective on the challenges and

opportunities in the management of scientific knowledge, favoring the formulation of collaborative models that enhance the global visibility of the academic production of both countries (BRITO, et al., 2022; DA COSTA, et al., 2023).

The motivation for the development of this study arises during the post-doctoral period of one of the researchers, in the increasing participation of Brazilian researchers in international congresses held in Portugal, in the historical partnership between Brazil and Portugal in the development of scientific research, training of human resources (masters and doctors) and public promotion aimed at social development, environmental, economic and scientific (COXE; ROCHA & HOFFMANN, 2019; FRANÇA & PADILHA, 2020; BRITO, et. al., 2022).

Therefore, to understand how KM manifests itself in research groups in Brazil and Portugal is to elucidate the very functioning of scientific communities in contemporary times. The research proposes a critical reflection on the role of KM as an instrument of integration, innovation and sustainability of scientific knowledge, contributing to the strengthening of research networks and international cooperation between Brazil and Portugal (CARVALHO & FERREIRA, 2020; DIAS, 2025).

2 THEORETICAL FRAMEWORK

2.1 FUNDAMENTALS OF KNOWLEDGE MANAGEMENT

Knowledge Management (KM) has been consolidated as an interdisciplinary field of study that articulates strategy, people, technology, processes, and organizational culture aimed at the creation, use, storage, retrieval, and sharing and application of different knowledge in the organizational context (CORREA, et. al, 2023). According to Davenport and Prusak (1998, p. 5), knowledge is "a fluid mixture of condensed experience, values, information and insights experienced, which provides a framework for the evaluation and incorporation of new experiences and information". This definition highlights the synergistic, dynamic and contextual nature of knowledge, a relevant and central resource for competitiveness, innovation and achievement of results in organizations (BEN ARFI et al., 2025; MATOS & CORBETT, 2019).

In the classical perspective, Nonaka & Takeuchi (1997) proposed the SECI (Socialization, Externalization, Combination and Internalization) model, which describes the process of converting tacit knowledge into explicit knowledge and vice versa. For the authors, organizational learning depends on the continuous interaction between these types of knowledge, which allows the creation of new knowledge and continuous innovation. Thus, knowledge is not only accumulated, but transformed through collaborative and contextual

practices defined by organizations within their strategies (VIDIGAL & ZIVIANI, 2016; DALKIR, 2017).

In this context, Ziviani, et al., (2025) point out that collaborative practices expand the capacity of institutions to transform academic knowledge into practical solutions for society (SANTOS & AMARO, 2021). For Gasperin & Guevara (2024), collaborative processes generate collective learning and reflect on the innovation capacity of organizations. Reinforcing the idea Carvalho, Fleury & Lopes (2020) when they state that structured sharing and collaboration practices allow organizational knowledge to be continuously reinterpreted and transformed, in this sense knowledge becomes the main resource in organizations (NONAKA & TAKEUCHI, 1997).

In the Brazilian context, Tomaél & Alcará (2011) emphasize that KM involves the development of environments conducive to the exchange of information and the collective construction of knowledge. These authors highlight the importance of knowledge networks and organizational trust as bases for the effective circulation of ideas and experiences. Similarly, Terra (2005) argues that KM should be understood as an integrated system that combines strategy, technology, processes, and people, with organizational learning and process improvements being the structuring axes and innovation the relevant result (ZIVIANI, et. al, 2023).

Contemporary Brazilian authors have been expanding this debate, bringing KM closer to the reality of public, academic, and innovative institutions (VALENTIM & CASTRO, 2020; DAMIAN, SILVA & PINTO, 2020). Ziviani, et. al (2024) argue that knowledge management should be seen as a strategic process of organizational transformation, in which information becomes an asset for decision-making and innovation. According to these authors, "the effectiveness of knowledge management depends on the ability of organizations to integrate people, processes, and technologies into a continuous learning ecosystem" (CORRÊA, et. al 2020, p. 112).

Also from this perspective, Alvarenga Neto (2008) and Alves & Valentim (2022) emphasize that the success of KM practices is related to the culture of sharing and valuing informal knowledge flows, which are often neglected in traditional management models. For the authors, the creation of communities of practice and collaborative networks strengthens innovation and the generation of public value (DAMIAN, SILVA & PINTO, 2020; MACHADO, 2020). Thus, KM also becomes an instrument for strengthening governance and organizational transparency (WENGER, McDERMOTT & SNYDER, 2002).

In the public sector, these communities contribute directly to the strengthening of governance, by favoring the circulation of information between areas, the standardization of

practices and the reduction of informational asymmetries (BATISTA, 2012). Similarly, Brazilian authors such as Terra (2005) and Valentim (2015) reinforce that collaborative knowledge networks expand the capacity for innovation and institutional response, especially in contexts where interdependence between agencies is high, agreeing with Nonaka & Takeuchi (1997).

Knowledge Management, in this sense, ceases to be just a mechanism of internal efficiency to become an instrument of public governance, encouraging transparency, participation and improvement of public policies (BATISTA, 2012). According to Dalkir (2017), public results-oriented KM fosters sharing practices that make processes more transparent, reinforcing accountability. In this sense, Choo (2006) and Batista (2012) argue that KM models applied to the public sector promote greater clarity in decision-making and allow evidence of how knowledge circulates among agents, strengthening both governance and public trust.

Other studies reinforce that KM is closely associated with innovation and intellectual capital. Sveiby (1998) argues that knowledge organizations are those capable of creating value from intangible assets, such as competencies, relationships and culture. Drucker (1993), in turn, already foresaw the advent of the knowledge society, in which knowledge would become the main economic resource and the knowledge worker, the central actor of organizational development.

In the interdisciplinary context, Valentim (2013) observes that information is the basis of organizational knowledge, and that management practices must consider not only formal flows, but also informal ones, in which knowledge is shared spontaneously. Batista (2012), on the other hand, when analyzing KM in the public sector, argues that organizational learning should be incorporated as an institutional policy to improve efficiency and transparency.

Finally, Gervásio & Cunha (2020) and Ziviani et al. (2024) highlight the importance of knowledge management for strengthening research networks and promoting scientific sustainability, emphasizing that "shared knowledge is the foundation for the collective advancement of science and for the consolidation of the Sustainable Development Goals (SDGs)" (ZIVIANI et al., 2025, p. 89).

Thus, it is observed that Knowledge Management is not limited to the implementation of technological systems, but involves a cultural and strategic change in organizations, as stated by Choo (2006). It requires valuing people as holders and disseminators of knowledge, as well as the creation of policies that promote continuous learning. As summarized by Nonaka & Takeuchi (1997, p. 80), "the creation of organizational knowledge is a spiral

process, which expands the knowledge created individually to group and organizational levels".

The dialogue between classical and contemporary authors demonstrates that knowledge is the main strategic resource of the twenty-first century, and its effective management constitutes a differential for public and private organizations that seek to improve their performance and promote a sustainable transformation with a focus on the Sustainable Development Goals (SDGs) of the UN 2030 Agenda (BARBIERI, et al., 2010; GERVÁSIO & CUNHA, 2020).

2.2 KNOWLEDGE MANAGEMENT IN THE ACADEMIC AND SCIENTIFIC CONTEXT

In the academic environment, especially in the scenario of universities that develop high-impact research, KM plays an essential role in stimulating the creation, storage, use, and sharing of scientific knowledge (MARTINS & CARVALHO, 2019; ZIVIANI, et. al, 2025). Universities and research groups are privileged spaces for the generation of new knowledge and for the formation of communities of practice (NONAKA & TAKEUCHI, 1997), in which knowledge is continuously shared, reused and reconstructed, following the logic of the spiral of knowledge of Nonaka & Takeuchi (1997) reinforced in the studies of Angeloni (2008) and Lima, Loose & Braga (2022).

Leite (2006) defines academic knowledge as formal, theoretical and practical knowledge acquired in higher education institutions, such as universities and colleges. The author reinforces that academic knowledge is built through research, experimentation and rigorous analysis, being guided by principles such as the clear origin of information, representation in some language, the possibility of replication and communication. This type of knowledge differs from empirical knowledge (based on experience) by its systematization and methodological basis (LEITE, 2006).

For Fialho, et. al, (2010), the application of KM in higher education institutions contributes to the strengthening of organizational learning and to the consolidation of innovation policies. These authors argue that scientific knowledge, when properly managed, becomes a collective asset, capable of generating social, economic, technological, political, and environmental benefits (MATOS & CORBETT, 2019).

In the Brazilian context, Carvalho (2019) identified that universities have been adopting KM systems as part of their institutional strategies, even if informally or unrelated to their strategy. According to the author, the main barriers observed are cultural, structural, technological, or related to the lack of incentives for collaboration and the lack of integrated

information management systems, which is reinforced in studies by Valentim & Castro (2020) and Machado (2020).

In Portugal, the development of infrastructures such as the Open Access Scientific Repository of Portugal (RCAAP) and the Ciência Vitae Curriculum has driven the institutionalization of KM in universities, promoting greater transparency and visibility to scientific production (DIAS, 2025). For Pimenta (2020), such initiatives reflect a systemic view of knowledge, oriented towards interoperability between data and the construction of collaborative scientific ecosystems focused on innovation. As a result, there is informational sustainability that guarantees high-impact scientific development (GERVÁSIO & CUNHA, 2020).

According to Sereno (2017, p. 18), KM in the university context is not limited to the storage of data or information, but comprises a process of collective intelligence management, which involves "the creation of digital and cultural environments favorable to the sharing of knowledge and scientific innovation".

Thus, KM, in the academic context, is articulated with open science and open access policies, reinforcing the importance of international collaboration and interoperability of research networks (SANTOS & MENEZES, 2020)

Knowledge Management has been consolidated as a strategic element in the advancement of scientific research, promoting not only the organization and systematization of information, but also the generation of innovative and high-impact knowledge (DAVENPORT & PRUSAK, 1998). In the academic context, KM allows researchers and institutions to share data, results and methodologies, favoring collaboration and strengthening collective scientific capacity (NONAKA & TAKEUCHI, 1997).

The importance of KM in the development of scientific research is manifested in different dimensions. Firstly, in the structuring and storage of data and information, in which databases, institutional repositories, and document management systems allow quick and secure access to experimental, scientific, and bibliographic data (ALVES & VALENTIM, 2022). Secondly, in the dissemination and sharing of knowledge, which includes the publication of articles, participation in conferences or congresses, and the use of collaborative digital platforms, promoting interdisciplinarity and innovation (CHOO, 2006; MORAES & MENDES, 2018). Finally, KM contributes to evidence-based decision-making, helping researchers to identify scientific gaps, emerging trends, and priority areas of scientific investigation, and allowing the identification of new fields of research (PORTER & HEER, 2014; MUGNAINI, DIGIAMPIETRI, MENA-CHALCO, 2018; SATOS & MENEZES, 2020).

Table 1 presents four relevant studies in the field of knowledge management and scientific research.

Table 1

Relevant articles in the context of Knowledge Management and Scientific Research

Author(s)	Title	Objective/main findings
LEITE & COSTA (2007)	Scientific knowledge management: proposal of a conceptual model based on scientific communication processes.	It presents a conceptual model of KM in the academic context, with emphasis on the processes of scientific communication (publication, dissemination, tacitization of knowledge). Useful to support KM theory applied to scientific research.
SANTOS & MENEZES (2020)	Scientific knowledge management as an interdisciplinary synthesis: theoretical-conceptual interfaces between knowledge management, scientific communication and organizational communication.	It explores scientific KM as an interdisciplinary field, relating KM with relevant scientific and organisational communication to understand how research (in green technology) can involve interdisciplinary KM.
ALVES & VALENTIM (2022)	Information management and knowledge management: an analysis of scientific papers indexed in BRAPCI.	This is an empirical-bibliometric study that characterizes the Brazilian scientific production in information science on KM/IG. Allows you to see trends, gaps and methods used, good for "state of the art" section.
LIMA, LOOSE, & BRAGA (2022)	The Knowledge Management scenario at the Rondônia Federal University.	Case research in a Brazilian university that investigates KM practices (knowledge flows) in an academic environment. It can serve as a methodological example to apply to the topic of scientific research in green technology.

Source: survey data, 2025.

In addition, the implementation of KM practices strengthens the competitiveness of research institutions, as it allows the preservation of organizational knowledge and reduces dependence on specific individuals, mitigating risks of loss of critical information (ALVES & VALENTIM, 2022). In this sense, the information life cycle, starting from the collection to the application of knowledge, becomes more efficient, enhancing scientific results and contributing to academic excellence and scientific production that generates social, economic, and technological impact (SANTOS & MENEZES, 2020).

However, the effectiveness of KM depends on factors such as organizational culture, available technologies, and training of researchers. Resistance to the exchange of information, lack of standardization in processes and scarcity of technological resources can compromise the dissemination and use of knowledge (NONAKA & TAKEUCHI, 1997; CHOO, 2006). Therefore, strategies to encourage collaboration, institutional policies of open access, and investments in information systems are essential to consolidate KM as a tool to support scientific research (ALBAGLI, MACIEL & ABDO, 2015; BRANDI & SILVA, 2017).

Therefore, to structure this research proposal, it is understood that Knowledge Management is not limited to the organization of information, but acts as an integrating

mechanism that enhances the creation of scientific knowledge, promotes innovation and strengthens institutional capacity (ALMEIDA, DAMIAN & VALENTIM, 2019). By articulating people, processes, and technologies, KM offers strategic support to scientific research, aligning itself with the demands of an increasingly complex, agile, and dynamic academic environment (ALCARÁ, et al., 2014; COSTA & LEITE, 2015; MARTINS & CARVALHO, 2019)

2.3 MODELS AND PRACTICES OF CM IN RESEARCH GROUPS IN BRAZIL AND PORTUGAL

The research groups represent structuring units of scientific production, acting as nuclei for the creation, dissemination and application of knowledge. In Brazil, the Directory of Research Groups (DGP/CNPq) is the main instrument for recording and monitoring these structures, allowing the mapping of their interactions and results (CARVALHO, 2019; CNPq, 2025). In Portugal, the development of infrastructures such as the Open Access Scientific Repository of Portugal (RCAAP) and the Ciência Vitae Curriculum has boosted the institutionalization of KM in universities and allowing scientific production to be more available to society (DIAS & GONÇALVES, 2020).

According to Batista (2012), KM applied to research groups should prioritize the systematization of informational flows and the stimulation of a culture of sharing. In a study on KM practices in Brazilian public universities, Fialho, Macedo and Miranda (2010) highlight the relevance of collaborative tools, such as digital repositories and scientific management platforms, to strengthen cooperation between researchers.

In Portugal, Sereno (2017) and Cardoso & Pimenta (2019) observe that research groups inserted in universities such as Lisbon, Porto and Coimbra have been adopting structured KM models, based on integrated information systems and intellectual capital management policies. These practices seek to align KM with performance evaluation and the international visibility of scientific production.

Dias and Gonçalves (2020) also point out that KM in Portugal is articulated with the principles of Open Science, valuing the sharing of research data, methodological transparency, and public access to the knowledge produced.

Expanding the theoretical discussion to support this study. It can be stated that in the Brazilian context, institutional initiatives and funding agencies have driven the adoption of KM practices in universities and research centers (OLIVEIRA & ARAÚJO, 2020; SANTOS & VIDOTTI, 2021). Researcher Valentim (2019, p.75) points out that KM in the scientific field should be understood as "a set of systematic processes aimed at identifying, organizing, and disseminating relevant knowledge", emphasizing the importance of informational mediation

and collaborative culture. In a direct quote, the author states that "knowledge management in science depends on the alignment between informational practices, technological infrastructure, and interaction between researchers" (VALENTIM, 2019, p. 82). This perspective reinforces that KM is a structuring element to strengthen research and expand its capacity for innovation.

In Portugal, studies also show the progressive incorporation of KM practices in university management and scientific communities. For Carvalho & Ferreira (2020, p. 35), "Portuguese universities have advanced in the institutionalization of knowledge management processes, especially those related to the management of scientific data, institutional repositories, and collaborative research practices". These actions dialogue with open science policies implemented by the Foundation for Science and Technology (FCT, 2020) and by consolidated research networks, which encourage interoperability and the sharing of results.

As for KM models, it is observed that most Brazilian and Portuguese research groups adopt classic references, such as the SECI model of Nonaka & Takeuchi (1997), maturity models (WEN & SHEN, 2016) and frameworks guided by informational processes (DAVENPORT & PRUSAK, 1998). In research groups, these models are usually manifested through practices such as: management of internal databases, systematic meetings to exchange experiences, shared methodological scripts, adoption of institutional repositories, formal registration of research procedures and protocols according to studies developed by Coxe, Rocha & Hoffmann (2019).

In the Brazilian case, studies such as that of Ziviani, et. al, (2025) highlight that the maturity in KM in research groups is still heterogeneous, but has been increasing with the expansion of collaborative platforms, the use of repositories of the Brazilian Network of Digital Repositories and the dissemination of open science practices (BAPTISTA & COSTA, 2019; CNPq, 2022). Similarly, in Portugal, authors such as Morais and Mendes (2018) identify that research groups have expanded the integration between KM and scientific data management, especially in areas such as health, engineering, and social sciences.

In general, KM practices in both countries converge on three main axes: (1) organization and registration of scientific knowledge, (2) sharing and collaboration mechanisms, and (3) strategic use of information for innovation and decision-making. These practices are influenced by institutional factors, scientific culture, and the technological maturity of each research group (BATISTA & QUANDT, 2014; SOUZA & VALENTIM, 2020; SANTOS & AMARO, 2021; GOMES & SANTOS, 2022).

The contrast between the two contexts, Brazil and Portugal, shows that, although Brazil has a large and diversified scientific community, it faces challenges in the

institutionalization of KM, especially in terms of incentive policies and technological infrastructure (SAYÃO, 2010; MUGNAINI, DIGIAMPIETRI & MENA-CHALCO, 2018; BRAZIL, 2021; CNPq, 2022). Portugal, on the other hand, has greater integration between its scientific information systems, which favors the strategic management of knowledge and the international recognition of its production (BAPTISTA & COSTA, 2019; FCT, 2020)

Brazilian scientific production on KM has been consolidated since the 2000s, with emphasis on studies related to Information Science and Public Administration according to bibliometric studies by Correa, Ziviani & Chinelato (2016) and Frogeri, et. al, (2022). Terra (2005) and Valentim (2008) point out that the country is advancing in the institutionalization of KM policies, especially in the public sector, where it seeks to preserve organizational knowledge and increase government efficiency.

According to Alves & Valentim (2022), bibliometric analyses reveal the growth of research on KM in Brazil, focusing on topics such as information management, collaboration networks, and innovation. These authors highlight that universities and public agencies are important laboratories for experimentation and implementation of KM practices. In the same sense, Gasperin & Guevara (2021) emphasize that KM is also a strategic tool for sustainable development, as it allows connecting scientific and social knowledge to more inclusive and resilient decision-making.

Finally, it can be seen that KM in Brazilian and Portuguese research groups reveals a growing movement of professionalization and systematization of scientific production processes, in line with international trends in open science, informational interoperability and interdisciplinary collaboration. The adoption of structured models and practices allows for the improvement of the quality of investigations, the strengthening of cooperation networks and the generation of more significant impacts for society (LEITE & COSTA, 2007; DIAS, 2015; MARTINS & CARVALHO, 2019).

3 METHODOLOGY

The present study adopts a qualitative approach of an exploratory and descriptive nature, since it seeks to understand phenomena related to Knowledge Management in its social and institutional context, prioritizing the interpretation of meanings and practices (GIL, 2019). According to Minayo (2012, p. 57), qualitative research "works with the universe of meanings, motives, aspirations, beliefs, values and attitudes", allowing for a deep analysis of human and organizational dynamics.

The research is also of a comparative nature, focused on the analysis of KM practices in Brazilian and Portuguese research groups. The comparative method makes it possible to

identify similarities and differences between contexts, contributing to the theoretical and practical advancement of the field studied. According to Lijphart (1971), the comparative method is fundamental in the social sciences because it allows the construction of inferences based on the observation of multiple units.

As it is an interdisciplinary field of study, Knowledge Management, in studies with a comparative approach, makes it possible to understand how different scientific cultures organize and disseminate knowledge. As stated by Sereno (2017, p.64), "the comparative study between academic institutions offers valuable perspectives for the improvement of knowledge management and innovation practices".

Thus, the study combines Integrated Literature Review, with documentary analysis, analysis of information from research groups available on institutional websites and empirical collection of qualitative data, allowing an integrated understanding of the investigated phenomenon.

The research was developed in three main stages:

- Integrated Literature Review – consisted of a review of the national and international literature on Knowledge Management applied to scientific research, focusing on reference works. The SciELO, Brapci, Scopus and Web of Science databases were consulted, using descriptors such as: knowledge management, knowledge sharing, Scientific Research, Scientific collaboration, Brazil and Portugal.
- Documentary stage – involved the analysis of institutional documents and scientific databases. In the Brazilian case, the Directory of Research Groups (DGP/CNPq), reports from the Ministry of Science, Technology and Innovation (MCTI) and institutional repositories were consulted. In Portugal, the Open Access Scientific Repository of Portugal (RCAAP), the Ciência Vitae system and reports from the Foundation for Science and Technology (FCT) were used.
- Empirical and comparative stage – included the selection and analysis of research groups linked to public universities and research institutes in both countries. Through semi-structured interviews, KM issues were addressed, such as: (a) knowledge sharing mechanisms; (b) scientific information management practices; (c) open access policies; and (d) structure of collaborative networks.

The research universe comprises research groups active in Brazil and Portugal, registered in the national databases mentioned. The intentional sample was composed of four research groups, two Brazilian and two Portuguese, chosen according to criteria of scientific relevance, area of activity and institutional visibility.

According to Flick (2009, p. 89), intentional sampling is appropriate in qualitative research, as it "seeks to select cases rich in information, capable of deepening the understanding of the phenomenon". The objective is not the generalization of the results, but the interpretative and contextualized understanding of KM practices.

The collection of qualitative data was carried out through documentary analysis and semi-structured interviews with coordinators of the selected research groups. The interview, according to Triviños (2015, p. 33), is a technique that allows "obtaining deeper information about the subjects' behaviors, practices and perceptions".

The interview scripts were elaborated based on the theoretical dimensions identified in the framework, covering topics such as: KM strategies, collaboration practices, use of information technologies, open access policies, collaboration networks and institutional challenges.

The interviews with the coordinators of research groups lasted from 30m to 40m. They were conducted in December 2024 and March 2025. The interviews were recorded and transcribed. After transcription, a document with 36 (thirty-six) pages was generated. As an opportunity for future studies, it is suggested the use of NVIVO qualitative data analysis software to structure the results.

Table 2 describes the profile of the interviewees and establishes the description for data analysis.

Table 2

Profile of the Interviewees

Description	Group	Country	Length of work as a researcher (years)	Updated Information in the Repository.
BETWEEN 1	Group 1	Brazil	18	Yes
BETWEEN 2	Group 2	Portugal	15	Yes
BETWEEN 3	Group 3	Portugal	16	Yes
BETWEEN 4	Group 4	Brazil	12	Yes

Source: survey data, 2025.

Additionally, institutional documents (strategic plans, research reports, open data policies) and scientific publications linked to the groups were analyzed, seeking to identify patterns of management and dissemination of knowledge.

Data collection on the sites in Brazil took place in June 2024 in the Directory of Research Groups (DGP/CNPq). In Portugal, information from the Open Access Scientific Repository of Portugal (RCAAP) accessed in July 2024 was used.

The data obtained were organized and analyzed through thematic content analysis, as proposed by Bardin (2011), which involves three phases: (a) pre-analysis; (b) exploitation

of the material; and (c) treatment and interpretation of the results. This technique enables the categorization of data into thematic axes, allowing a structured comparison between the Brazilian and Portuguese contexts.

The analysis followed an interpretative model, seeking to understand how KM practices manifest themselves and relate to the performance and scientific cooperation of the groups studied. For Yin (2015, p. 25), this type of analysis is appropriate when one intends to "examine contemporary phenomena in their real context, especially when the boundaries between the phenomenon and the context are not clearly defined".

The results were organized into four categories: a) General Overview of Research Groups; b) Comparison between Brazil-Portugal research groups; c) Analysis of Convergences and Divergences; and d) KM practices in research groups in Brazil and Portugal.

The research complied with the ethical principles set forth in the guidelines of the Research Ethics Committee (REC), ensuring the free and informed consent of the participants and the confidentiality of the information obtained. In the cases of interviews, the subjects were informed about the objectives and the use of the data exclusively for academic purposes. According to Resolution No. 510/2016 of the National Health Council (BRASIL, 2016), research in the human sciences must ensure respect for the dignity and privacy of participants, observing informed consent and ethical treatment of the data collected.

4 RESULTS AND DISCUSSION

4.1 OVERVIEW OF RESEARCH GROUPS

In Brazil, the Directory of Research Groups in Brazil (DGP), created and maintained by the National Council for Scientific and Technological Development (CNPq), has consolidated itself over the last decades as one of the most important national bases for monitoring scientific activity. Far beyond an institutional registry, the Directory is a strategic instrument for management, evaluation, and scientific prospection, gathering data on researchers, lines of research, academic production, infrastructure, and collaboration networks. According to CNPq (2025a, p. 56), the DGP/CNPq "documents the organization of research in the country, allowing comparative, temporal and thematic analyses of the evolution of Brazilian science", a view confirmed by the interviewees BETWEEN 1 and BETWEEN 4.

According to CNPq (2025a, p. 81), the Directory "registers the research groups active in the country, describing their composition, lines of research, scientific production, and infrastructure." This systematized description allows us to understand the evolution of areas

of knowledge, identify emerging trends, and map collaboration networks between researchers, institutions, and regions. Thus, the DGP assumes a central role not only as an informational repository, but as a strategic intelligence tool for the national science, technology, and innovation system (CNPq, 2025a).

Brazilian respondents BETWEEN 1 and BETWEEN 4 point out that in Brazil some authors such as Mena-Chalco & Cesar (2009) and Jannuzzi & Mello, (2018) study the relevance of the Research Directory in consolidating a comprehensive view of scientific research in Brazil (MUGNAINI, DIGIAMPIETRI & MENA-CHALCO, 2018). For Mugnaini, Digiampietri & Mena-Chalco (2018, p. 89), the DGP constitutes a unique source for studies on scientific dynamics, productivity and collaboration, as it "integrates institutional, curricular and thematic information in a single platform". Similarly, Jannuzzi & Mello (2018, p. 21) point out that the Directory contributes to "qualifying the planning and evaluation of development policies", allowing the identification of regional gaps and potentialities, which can be confirmed in the reports of ENTRE 4.

In the context of universities and research groups, the DGP favors institutional visibility and the recognition of installed competencies (CNPq, 2025b). As highlighted by Mena-Chalco, et al. (2020), the systematization of information in the Directory expands the capacity of institutions to demonstrate their scientific production and to establish strategic, national and international partnerships. The research group coordinators interviewed (BETWEEN 1 and BETWEEN 4) reinforce that the Research Group Directories allow researchers to present their lines of research, projects, orientations and results achieved in a structured way. Results also discussed in the studies by Mena-Chalco & Cesar (2009) and Jannuzzi & Mello (2018).

The insertion of data in the DGP is also directly related to the academic evaluation processes in the country, as reported by the researcher ENTRE 4. CAPES and other funding agencies use the Directory as a complementary source for analyzing the training of human resources, intellectual production and the impact of research groups. This reinforces its function as an instrument of governance and transparency of the Brazilian scientific system (MENA-CHALCO & CESAR 2009; MUGNAINI, DIGIAMPIETRI & MENA-CHALCO, 2018; JANNUZZI & MELLO, 2018; OLIVEIRA & ARAÚJO, 2020; CNPq, 2025b).

Therefore, in the Brazilian context, the CNPq Directory of Research Groups stands out as an ecosystem of scientific information, articulating data, researchers, students, scientific production and institutions. Its relevance transcends the simple mapping of groups, configuring itself as a strategic resource to support public policies, highlight scientific capacities and promote the integration between science, technology, society and sustainable development (CNPq, 2025a). It is also noteworthy the potential for innovations of each group,

as highlighted in the studies by Mena-Chalco & Cesar (2009) and Jannuzzi & Mello, (2018), confirmed in the interviews of ENTRE 1 and ENTRE 4.

Table 3 presents the main information of the Brazilian research groups that were part of this research.

Table 3

Brazilian Research Groups available in the Directory of CNPq Research Groups selected for the study: characteristics and relevance.

University	Predominant area	Year of Formation	Research Lines	Number of active students	Number of active Brazilian teachers	Number of foreign professors	Partnerships
Public	Applied Social Sciences; Information Science	2004	Knowledge Architecture and Organization Study, learn and research in undergraduate studies Organization of Information	7	25	2	UFF CAPES CNPq Embrapa Fapemig
Public	Humanities; Education	2007	Youth and School Youth, collective actions and social participation Youth, socio-educational spaces and violation of rights Youth, cultural practices and the public sphere Trajectories of young people and the condition of young people in the countryside	25	25	0	MEC UNICEF

Source: survey data, 2025.

In Portugal, the Open Access Scientific Repository of Portugal (RCAAP) is the main national initiative aimed at the management, preservation and dissemination of Portuguese scientific production in an open access regime. Created in 2008 under the coordination of the Foundation for Science and Technology (FCT) and the University of Minho, RCAAP integrates theses, dissertations, articles, technical reports, communications and other scientific results produced in higher education institutions and research centers in the country (RCAAP, 2025).

RCAAP is a central infrastructure for the network of Portuguese institutional repositories, aggregating and indexing thousands of scientific documents (theses, articles, dissertations), which strengthens visibility and public access to scientific production as reported by respondents BETWEEN 2 and BETWEEN 3 and confirmed in the studies by Gomes, Pereira & Martinho (2024) and evidenced in the RCAAP report, (2025).

For this study, two consolidated research groups were selected, relevant in the international scenario and with high-impact production. The selection was made for accessibility and convenience. This allows us to anticipate that the results cannot be generalized. The objective was only to analyze KM practices within and between research groups.

Table 4

Portuguese research units in Applied Social Sciences and Technology

Unit / Group	Institution	Practice Areas	Structure / Internal Groups	Characterizing Data
DINÂMIA'CET-ISCTE	ISCTE – University Institute of Lisbon	Innovation, work, social economy, territories, governance	3 groups: (1) Innovation, Knowledge and Work; (2) Cities and Territories; (3) Governance, Economy and Citizenship	Evaluated as "Excellent" by FCT; more than 230 researchers (105 PhDs); More than 5000 registered publications.
CIES-Iscte	ISCTE – University Institute of Lisbon	Sociology of science and technology; digital communication; public policies; Inequalities	7 research groups	More than 80 scholarship holders; 8 FCT PhD scholarships (2024); The Education and Science group has 17 integrated researchers, 43 projects and 159 publications (2018–2023).

Source: Prepared by the authors based on ISCTE (2023, 2024), CIES-Iscte (2023; 2024) and FCT (2024).

The Open Access Scientific Repository of Portugal (RCAAP) has been consolidated, over the last decade, as one of the main national initiatives aimed at the democratization of scientific information (SANTOS & MENEZES, 2010). Its institutional mission makes explicit the commitment to expanding the visibility and circulation of research produced in Portuguese

institutions, as highlighted by ENTRE 3 and confirmed in the institutional document RCAAP (2025). As the official documentation of the project highlights, the RCAAP presents itself as a structure aimed at "democratizing access to knowledge" (CARVALHO, et.al., 2010, p. 8). This orientation is close to European policies to promote open access, which recognize the strategic role of institutional repositories in the public dissemination of science, confirmed in the studies of Gomes, et.al. (2024) and highlighted in the ENTRE 3 interview.

Portuguese authors (DA SILVA JÚNIOR & BORGES, 2014; RAMOS, 2023; MOREIRA, et. al., 2025) have emphasized that RCAAP was designed to "increase the visibility, accessibility, and dissemination of national scientific production" (RCAAP, 2025, p. 14). In addition to bringing together the intellectual production of teaching and research institutions, the system ensures interoperability standards that facilitate the exchange of data, integration into international networks, and the dissemination of metadata in accordance with international standards, an issue highlighted by ENTRE 3. Saraiva, et. al. (2010, p. 34) observe that the Portuguese infrastructure is characterized by "interoperability and the use of appropriate international guidelines/standards". A fundamental condition to strengthen Portugal's presence in initiatives such as OpenAIRE, MedOAnet and DRIVER (CARVALHO, et. al, 2014) reaffirming the report of the research group coordinator interviewed ENTRE 2.

The Portuguese literature also points out that RCAAP is not limited to the storage of publications, but fulfills analytical and strategic functions in the national scientific ecosystem (FCT, 2025). Among them is the ability to "facilitate access to information on national scientific production" (RCAAP, 2022, p. 56), allowing the mapping of areas of concentration, collaboration networks, and publication patterns, a question presented by the interviewees BETWEEN 2 and BETWEEN 3. The OpenAIRE report reinforces this systemic function by stating that "the RCAAP initiative aims to increase the visibility, accessibility and dissemination of Portuguese research outputs" (EURAXESS, 2012, p.32), evidencing the convergence between national policies and European Union goals.

In addition, RCAAP provides specialized services, such as directories of repositories and journals, which, according to institutional documents, "offer services such as Portal and Directory of Repositories and journals in Open Access" (RCAAP, 2025, p. 51). The interviewees BETWEEN 2 and BETWEEN 3 emphasize that this set of tools has allowed them to understand, in an organized way, the panorama of scholarly communication in Portugal, contributing to performance evaluations, bibliometric studies and diagnoses of institutional practices.

Theoretical reflection on open access has also advanced in the country, with emphasis on the role of information professionals. Rodrigues (2004) summarizes this movement by

stating that "the aspiration for open access to scientific literature has grown in recent years", driving debates on editorial models, funding and sustainability of repositories. Accordingly, studies linked to RCAAP have investigated the perceptions of researchers and managers. Prince, et. al., (2010, p. 12) emphasize that one of the central objectives of the surveys promoted by the initiative is to "map publication practices and the level of knowledge about the principle of open access among researchers", providing inputs for more robust institutional policies.

In addition, the Portuguese policy for open access is in line with international standards, reinforcing the idea that the RCAAP plays a mediating role between national scientific production and global flows of knowledge circulation (DA SILVA JÚNIOR, & BORGES, 2014; MOREIRA, et. al., 2025). Carvalho, et. al, (2014, p. 29) state that the project "integrates Portugal into international initiatives in the field of Open Access", highlighting its strategic relevance for the internationalization of Portuguese science.

Thus, when analyzing RCAAP from the perspective of the democratization of knowledge, it is observed that the initiative operates as a structuring system for scientific dissemination, increasing transparency, favoring collaborative practices and consolidating itself as a fundamental pillar of open science policies in Portugal, an issue reinforced by ENTRE 3. In this sense, Macedo & Ferreira (2020, p. 91) highlight that RCAAP has become a "fundamental piece in the digital infrastructure of science in Portugal", contributing to the preservation, visibility, and reuse of intellectual production.

4.2 COMPARISON BETWEEN BRAZIL-PORTUGAL RESEARCH GROUPS: CONVERGENCES AND DIFFERENCES

The analysis included four research groups, two Brazilian and two Portuguese, linked to public universities and research institutes. The data were obtained through an integrated literature review, institutional documents formalizing the research groups before the bodies that manage scientific research in each country and semi-structured interviews with the coordinators of the selected groups, as described in the methodology.

In both contexts, it was observed that Knowledge Management is recognized as a strategic element for scientific development. However, the degree of institutionalization and maturity of KM practices presents significant differences between Brazil and Portugal. The results show different paths in Brazil and Portugal regarding KM.

In Brazilian groups, informal and decentralized initiatives predominate, often associated with spontaneous collaboration practices and the use of low-cost digital tools, such as Google Drive, journal platforms, and institutional repositories, as reported in

interviews with research group coordinators (ENTRE 1 and ENTRE 4) and confirmed in the studies by Carvalho, (2019). In Portugal, there were more structured institutional KM policies, linked to integrated national scientific information systems, such as RCAAP and Ciência Vitae (DIAS & GONÇALVES, 2020).

Knowledge Management is a strategic element in the strengthening of scientific research, both nationally and internationally, an issue reported by the four interviewees. By integrating people, processes, and technologies, KM promotes the circulation of knowledge, stimulates innovation, and contributes to the collective advancement of science in the vision of ENTRE 1. From the contributions of classic authors such as Drucker (1993), Nonaka & Takeuchi (1997) and Davenport & Prusak (1998), as well as the Brazilian approaches of Terra (2005), Leite (2007), Alvarenga Neto (2008), Valentim (2008, 2010) it is clear that KM is essential to consolidate an open, collaborative science oriented to sustainable development.

Thus, managing scientific knowledge is not only an administrative issue, but an ethical and social commitment. In times when information circulates at unprecedented speed, the ability to transform knowledge into scientific and social action becomes the main differential for the progress of humanity in the view of the researchers interviewed BETWEEN 2 and BETWEEN 4.

The literature indicates that Knowledge Management is a structuring instrument of scientific activity, as it favors the creation of value, collective learning and the diffusion of innovation, a strategic vision evidenced by the researchers BETWEEN 1, BETWEEN 2 and BETWEEN 4. The interviewees reinforce that the effectiveness of KM depends on the existence of integrated institutional policies and a culture of sharing that transcends national borders.

The comparative study between Brazil and Portugal, therefore, offers subsidies to understand different stages of maturity in the application of KM in research groups, allowing the identification of good practices and strategies that contribute to the strengthening of scientific cooperation and the production of sustainable knowledge, an issue confirmed by the four interviewees.

When comparing the Brazilian model of the DGP with the Portuguese panorama, it is observed that both countries use structured systems to record and evaluate scientific activity, but with differences in scope, data integration, and information granularity, an issue evidenced in the institutional reports and documents of FCT (2024) and CNPq (2025b).

In Portugal, the main instrument for the registration and evaluation of research groups is conducted by the Foundation for Science and Technology (FCT). According to FCT (2022), the evaluation process organizes research and development (R&D) units into thematic areas,

analyzing productivity, impact, human resources and internationalization. Although there are complementary databases, such as Ciência Vitae and the RCAAP Portal, the country does not have a directory equivalent to the DGP/CNPq, with continuous and centralized details on research groups.

Portugal seeks to integrate curricular, institutional and scientific production information through Ciência Vitae, whose conception is close to the Brazilian model of the Lattes Curriculum. However, the Portuguese structure is mainly guided by the periodic evaluation of R&D units according to FCT guidelines (2025), while in Brazil the DGP/CNPq registers groups in a more dynamic and decentralized way, directly linked to teaching and research institutions as stated in the CNPq report (2025). These strategies are described in institutional documents and regulations of FCT and CNPq.

Portuguese authors such as Carvalho & Machado (2020) highlight that scientific evaluation in Portugal is more focused on the performance of units and less on the individual characterization of thematic groups. On the other hand, in Brazil, the DGP/CNPq allows for finer analyses of specific lines of research, subgroups, teams, and collaborations, which expands its potential for bibliometric and strategic intelligence studies as described by CNPq (2025a).

Analyzing the institutional reports of Brazil and Portugal, this structural difference impacts the analytical possibilities, in the institutional documents and reinforced by the literature, thus, Brazil focuses on mapping studies the constitution of thematic networks, emerging scientific regions, patterns of interinstitutional cooperation and granular evolution of specific areas. On the other hand, in Portugal, the analyses are more articulated with formal evaluation cycles, making continuous and updated analyses such as those carried out from the DGP/CNPq difficult.

Despite these differences, the two countries converge in the search for transparency, data integration, and strengthening open science policies, as pointed out by Santos and Simões (2021) and confirmed in the interviews. The growing interoperability between national platforms, such as Lattes, ORCID, Ciência Vitae and RCAAP, strengthen possibilities for comparative studies such as this proposal and scientific cooperation.

This study shows that the CNPq Directory of Research Groups (DGP) is configured as a national inventory of groups active in Scientific, Technological and Innovation Institutions (ICTs), gathering information on composition, lines of research, production and infrastructure and serving as a source for monitoring and formulation of scientific policies in Brazil, corroborating with the guidelines of CNPq (2025) and Open Science.

On the other hand, the Open Access Scientific Repository (RCAAP) of Portugal aims to be a national aggregator (meta-repository) that collects, indexes and makes available in open access the content deposited in Portuguese institutional repositories, with an emphasis on visibility, interoperability and digital preservation, an issue highlighted in the RCAAP document, (2025)

This study shows that while the DGP/CNPq is essentially a register/descriptive of groups (aimed at group management, human resources training indicators and institutional evaluation), its integration with the Lattes Platform makes it possible to generate bibliometric indicators and analyses of the dynamics of groups and collaboration networks in the Brazilian territory. This evaluative vocation is evidenced both in official manuals and in studies on the trajectory of the DGP/CNPq.

RCAAP, in turn, focuses on the aggregation of full texts and metadata (articles, theses, reports), offering a rich corpus for open access studies, knowledge circulation analyses, and full-text content-based bibliometrics. The RCAAP portal and services allow, for example, to measure the reach and internationalization of the content deposited.

It can be seen that there is a complementarity between DGP/CNPq and RCAAP, even pointing out divergent guidelines, the platforms suggest paths for integrated policies: in Brazil, with a focus on strengthening interoperability between DGP/Lattes and institutional repositories, the capacity to measure both the structure of the groups and the access to their products would increase. On the other hand, in Portugal, RCAAP's experiences show how a national aggregator can increase visibility and comply with open access mandates promoted by the funding agency (FCT, 2025). These lessons are relevant to open science strategies and scientific evaluation in both countries.

4.3 KNOWLEDGE MANAGEMENT PRACTICES IN BRAZILIAN RESEARCH GROUPS

In Brazil, the development of KM in the academic context has advanced significantly, as can be seen in studies such as Damian, et. al., (2020) and Ziviani, et. al., (2025). Observing the study by Leite & Costa (2007, p. 95) they highlight that "the construction of an academic KM system must contemplate the socialization, externalization, combination and internalization of knowledge", emphasizing the importance of converting tacit knowledge into explicit knowledge.

Sampaio & Menezes (2022) indicate that KM can favor institutional scientific dissemination, creating sharing policies and institutional repositories that allow broad access to research results, a point of view confirmed in the interviews (BETWEEN 1 and BETWEEN 3). Giraldi & MeloSilva (2019) observe that gaps in the training of coordinators of graduate

programs can compromise the effective implementation of KM, the same point highlighted in the CAPES reports (2025b). Cremonezi, Spers & Cirera (2013) add that, although there is awareness of the need to systematize knowledge, there are not always formal strategies to manage it.

In addition, Sampaio & Menezes (2022). mapped the scientific production on KM in journals of Information Science and Administration, noting expansion, but pointing out that the theme was still incipient in some national contexts. Magalhães (2024) reinforces the need for a critical and methodological approach to advance in the field in stricto sensu programs. In this sense, the new CAPES guidelines (2025) for the evaluation of stricto-sensu programs offered by Higher Education Institutions (HEIs) in the 2025-2028 quadrennium are structured based on KM strategies and practices, mainly knowledge sharing and strengthening cooperation between programs (ENTRE 1).

The Brazilian groups analyzed, linked to universities, demonstrate a strong collaborative vocation, but still have weaknesses with regard to the systematization and formalization of KM practices, as found in the triangulation of the data.

In general, the practices focus on the exchange of information between researchers, the use of institutional repositories and the scientific production in co-authorship. However, there is a lack of clear policies for the retention and dissemination of knowledge, as well as mechanisms for the preservation of the institutional memory of the groups, results that are in line with studies by Almeida, Damian & Valentim (2019) and Damian, Silva & Pinto (2020).

According to Batista (2012), this scenario reflects the absence of a management culture focused on knowledge, since "Brazilian public and academic organizations still lack structures and incentives that encourage the systematic sharing of knowledge and practices", a view also confirmed in the study by Da Costa, et. al., (2023).

Another challenge identified concerns the turnover of researchers and scholarship holders, which generates dispersion of tacit knowledge and hinders the continuity of research activities. Terra (2005) reinforces that KM strongly depends on processes of socialization of knowledge and institutional leadership committed to collective learning.

Despite these limitations, relevant advances are observed, especially in groups that adopt digital collaborative tools and promote internal events to share results, favoring the consolidation of communities of practice (ANGELONI, 2008).

In Brazil, academic and institutional interest in KM has grown since the 2000s, especially in the public sector and universities. Studies by Angeloni (2008) and Batista (2012) demonstrate that KM practices are fundamental for administrative efficiency, the improvement of public policies and the strengthening of scientific innovation.

Batista (2012) emphasizes that knowledge should be treated as a strategic public asset, highlighting that the implementation of KM in government agencies contributes to greater transparency and administrative continuity. Angeloni (2008) argues that knowledge sharing depends heavily on interpersonal trust and organizational incentives, aspects that are often neglected in Brazilian institutions.

Santos and Varvakis (2020) complement this analysis by stating that the Brazilian challenge is to institutionalize KM as an organizational policy, integrating learning processes, information management, and innovation.

In addition, authors such as Valentim (2008) and Gonzalez (2017) highlight the role of Information Science as the conceptual basis of KM, especially with regard to the organization, representation, and dissemination of knowledge in digital environments.

Despite the theoretical advance, KM faces criticism related to its excessive technological emphasis and the undervaluation of the human factor. According to Alvarenga Neto (2008), many initiatives fail because they reduce KM to an information system, ignoring cultural, political and symbolic dimensions of knowledge.

Another important criticism refers to the commodification of knowledge, transformed into a measurable economic asset, which can disregard ethical and social aspects. Nonaka and Takeuchi (1997) warn that true knowledge creation involves values, organizational purpose and social responsibility.

In summary, contemporary KM seeks to balance the technological and human dimensions, recognizing that knowledge is, above all, a social phenomenon, situated and contextualized.

4.4 KNOWLEDGE MANAGEMENT PRACTICES IN PORTUGUESE RESEARCH GROUPS

In Portugal, KM in scientific research has also been investigated. Quintas (2023) analyzes the literature on KM, highlighting topics such as knowledge transfer, innovation, and human resource management. Santiago, Carvalho & Ferreira (2013) discuss the emergence of "post-academic science" in Portuguese universities, relating KM to entrepreneurial research.

Sampaio and Menezes (2022) conducted a systematic review on scientific KM in Brazilian and Portuguese universities, pointing out trends, gaps, and recent evolutions. These studies reveal the relevance of KM to strengthen innovation and the sustainability of academic knowledge in both countries.

The use of integrated scientific information systems, based on performance indicators, open access and data interoperability was verified. Integration with Ciência Vitae allows

information on production, projects, and collaboration networks to be managed centrally, promoting visibility and control of results (CARDOSO & PIMENTA, 2019).

According to Sereno (2017), this structure evidences a "model of organizational maturity in KM", in which knowledge is treated as an institutional strategic asset. In addition, Portuguese universities demonstrate greater investment in teacher and technological training, with a focus on innovation and the transfer of knowledge to society.

The analysis also revealed the existence of formal communities of practice, with periodic meetings, shared documentary bases and institutional policies to encourage interdisciplinary collaboration, aspects that are still incipient in part of the Brazilian groups.

4.5 KNOWLEDGE MANAGEMENT PRACTICES IN BRAZIL-PORTUGAL RESEARCH GROUPS: CONVERGENCES AND CHALLENGES

Knowledge management (KM) in academic environments presents itself as a strategic dimension to strengthen scientific production in universities. Unlike KM in companies, which often aims at competitive advantage or operational efficiency, in scientific research its objective is to facilitate the creation, systematization, retention, and dissemination of knowledge generated by researchers. In this scenario, the processes of scholarly communication are fundamental, as they allow the tacit knowledge often present in the individual experience of researchers to be converted into explicit knowledge through articles, reports, patents, and other academic artifacts.

For example, Leite & Costa (2007) propose a conceptual model of scientific KM based on the processes of scientific communication, arguing that the construction of an academic KM system should contemplate socialization (tacit), externalization, combination and internalization, agreeing with the SECI model of Nonaka & Takeuchi (1997), but adapted to the university contexts.

In the same way, KM can favor scientific dissemination. Sampaio (2019) discusses how knowledge management in public universities can support institutional scientific dissemination and respect the principles of public administration, such as impersonality and publicity. In practical terms, this could mean the creation of institutional repositories, open access policies, and collaborative cultures that encourage researchers to share data and results.

Another relevant challenge is in institutional leadership. Giraldi and MeloSilva (2019) analyzed the organizational challenges faced by graduate and research managers at a Brazilian federal university, identifying gaps in the training of program coordinators and in the articulation between academic research and the organizational environment. Such gaps can

compromise the sustainability of KM, since leadership is essential to institutionalize knowledge capture and transfer practices.

In addition, scientific KM is closely related to the production and structure of the investigation itself. For example, Cremonezi, Spers and Cirera (2013) investigated how professors of master's programs in administration perceive "scientific knowledge" and KM practices in their academic environment, showing that there is an awareness of the need to systematize knowledge, but there are not always formal strategies for this.

Within the scope of Brazilian research, Barradas & Campos Filho (2007) mapped the scientific production on KM in journals of Information Science and Administration between 1997 and 2006, finding that the theme was expanding, but was still incipient in many national contexts. On the other hand, Magalhães (2024) investigated the institutionalization of KM in stricto sensu graduate programs, indicating the need for a more critical and methodological approach to advance in the field.

In Portugal, the countryside has also grown. Quintas (2023) presents an analysis of KM research in Portugal in the last decade, highlighting topics such as knowledge transfer, innovation and human resources. In addition, Santiago, Carvalho & Ferreira (2013) address "entrepreneurial research" in Portuguese universities, relating KM to the new model of post-academic science and the logic of the "knowledge society".

Finally, Sampaio & Menezes (2024) conducted a systematic review on scientific KM in Brazilian universities, showing trends, gaps, and recent evolutions.

In view of this, it is evident that knowledge management in scientific research is not just a managerial metaphor: it is a concrete and necessary practice to strengthen the institutional capacity to generate and share academic knowledge, promote innovation, and ensure that the scientific legacy is preserved and accessible to future generations of researchers.

The comparison between the Brazilian and Portuguese contexts allowed us to identify patterns of convergence and structural differences in the adoption of KM in the academic environment.

Convergences:

- Recognition of KM as an instrument for strengthening scientific research;
- Emphasis on collaboration and networked production;
- Growing use of digital repositories and platforms for the dissemination of knowledge;
- Valuing transparency and open access to publications.

Differences:

- In Portugal, KM is more institutionalized, associated with national policies and consolidated technological infrastructure;
- In Brazil, practices are more decentralized and dependent on the initiative of researchers;
- The Portuguese groups demonstrate greater integration between KM, performance evaluation and scientific information management;
- Brazilians have greater thematic diversity and flexibility, but less standardization in processes.

These differences corroborate the analysis of Dias and Gonçalves (2020), for whom KM in Portugal "evolves under a strong institutional orientation, while in Brazil it is still structured under more informal and experimental logics".

Table 5

Synthesis of KM Practices Identified in the Research Groups of Brazil and Portugal

GC Dimension	Brazilian Groups	Portuguese Groups
Technological infrastructure	Scattered tools, use of free platforms and institutional repositories.	Integrated KM and scientific information systems (*Ciência Vitae*, *RCAAP).*
Institutional policies	Isolated initiatives; absence of specific KM regulations.	Formal policies and alignment with national science and innovation guidelines.
Knowledge sharing	Informal and spontaneous practices among members.	Structured networks and inter-institutional communities of practice.
Scientific information management	Local repositories and institutional portals.	Centralized management and interoperability between systems.
Training and innovation	Specific training actions.	Continuous training programs and stimulation of innovation.
Results and impact	Relevant but dispersed scientific production.	Scientific production with high visibility and international integration.

Source: survey data, 2025.

Knowledge management has been consolidated as a strategic area in the field of scientific research. In academic environments, the production of knowledge is not limited to the generation of data, but also to its systematization, socialization and application. In this sense, KM can significantly favor the efficiency and quality of research activities, contributing to institutional development, innovation and sustainability of knowledge.

In Brazil, several studies investigate KM applied specifically to the academic or scientific context. For example, Leite and Costa (2007) proposed a conceptual model of scientific knowledge management based on scientific communication processes, highlighting particularities of tacit and explicit knowledge in research environments. In addition, Garcia and Valentim (2014) developed a model proposal for the management of scientific knowledge

at the São Paulo State University (UNESP), considering the specificities of Information Science.

In Portugal, although less focused specifically on "scientific knowledge management", there are relevant works that deal with KM in organizations and with implications for institutional research.

According to Pimenta (2020), maturity in KM is associated with the institutional ability to articulate "structures, processes, and people around strategic learning and innovation objectives". In this sense, Portuguese groups show greater adherence to this model, while Brazilian groups show potential for growth and social innovation, especially due to the diversity of their areas and contexts of activity.

It is concluded that the strengthening of KM in Brazilian research groups depends on the creation of specific institutional policies, investment in technological infrastructure and the promotion of a culture of sharing and sustainable collaboration. In Portugal, the current challenge lies in consolidating the integration between knowledge management and the social impact of science, bringing the university closer to society.

5 FINAL CONSIDERATIONS

The present study aimed to analyze Knowledge Management in the development of scientific research, based on a comparative study between research groups in Brazil and Portugal. The investigation sought to understand how KM practices are implemented, institutionalized and evaluated in different academic contexts, highlighting their convergences, challenges and perspectives for improvement.

The results showed that KM is recognized, in both countries, as an essential instrument for the production, dissemination and application of scientific knowledge, contributing to the strengthening of research networks and to the consolidation of a more open and collaborative science. However, the institutional structures and maturity levels of KM differ considerably between the contexts analyzed.

In Portugal, the presence of consolidated institutional KM policies was observed, articulated with national scientific information systems, such as RCAAP and Ciência Vitae. This integration reflects a more mature and strategic model, in which knowledge is treated as an organizational asset and an element of innovation management, confirming the discussions in the literature and the data collected. In addition, Portuguese universities continuously invest in training, technology, and performance evaluation, which strengthens the culture of institutional sharing and learning.

In Brazil, the DGP/CNPq functions as an institutionalized inventory of Brazilian research groups, recording links, lines, and associated productions (CNPq, 2025), while the RCAAP aggregates metadata and, when available, full texts from Portuguese institutional repositories, including theses, dissertations, and technical reports (FCT, 2025.). The complementarity is evident: the DGP/CNPq provides organizational context and group links in Brazil, on the other hand the RCAAP centralizes descriptions and access to the production deposited in Portuguese repositories, making the pairing by authors, titles and identifiers (DOI/ORCID) feasible.

The expansion of the use of DGP/CNPq as a bibliometric instrument places Brazil in a privileged position in Latin America, as it offers a public, detailed and continuously updated database on the functioning of the research system. A comparison with Portugal reveals complementary models: while Brazil has a broad and decentralised base of groups, Portugal has systems strongly oriented towards institutional evaluation and internationalisation. This complementarity suggests relevant opportunities for comparative studies and integration between information systems, favoring analyses of scientific capacity, international collaboration networks and impacts of research on society.

KM practices in Brazil have been shown to be less institutionalized, but with significant diversity and innovative potential. Brazilian groups demonstrate strong collaborative engagement, supported by individual initiatives and the creative use of digital tools. However, challenges persist related to the absence of specific policies, the turnover of researchers, and the limitation of resources for information management and organizational memory, issues also confirmed in the studies by Damian, Silva & Pinto (2020) and Correa, et. al, (2023).

The comparison between the two contexts allows us to conclude that, while Portugal advances in the consolidation of KM as a scientific policy, Brazil stands out for its flexibility and the ability to generate creative and adaptive solutions in the face of structural constraints. This complementarity points to opportunities for bilateral cooperation, especially in the formation of Lusophone knowledge networks and in the construction of shared methodologies of scientific management.

In theoretical terms, this study contributes to the broadening of the discussion on KM in the interdisciplinary field and in university management, reinforcing the understanding that knowledge is a strategic resource for sustainable development. From a practical point of view, it offers subsidies for the formulation of integrated models of knowledge management in research networks, aligned with the principles of the UN 2030 Agenda.

Despite theoretical and practical advances, KM faces some challenges. The first of these is the difficulty of measurement: quantifying the value of knowledge and the return on

investments in KM is still a complex issue (DALKIR, 2017). Another obstacle refers to cultural resistance: many organizations still value knowledge as an individual power, which inhibits its circulation (DAVENPORT & PRUSAK, 1998).

In addition, there is the risk of excessive formalization, which can transform KM into mere document management, losing the dynamic and social character of knowledge. Finally, the sustainability of KM initiatives depends on the institutional capacity to promote continuous learning and adaptation to technological and cultural changes.

Knowledge management in scientific research is a growing field in both Brazil and Portugal. The literature combines theoretical, quantitative, and qualitative approaches, demonstrating the diversity of perspectives and applications. From the selected studies, it is evident that KM can support the efficiency of scholarly communication, foster university innovation, and institutionalize sustainable knowledge-sharing practices.

The advancement of public policies and the strengthening of collaboration networks in Brazil indicate a positive trend of maturation in the field. Even so, the effectiveness of KM requires institutional commitment, leadership, and organizational culture that value knowledge as a collective good and engine of innovation.

Finally, it is recommended to deepen future research that explores the evaluation of the impact of KM on scientific production, as well as the development of comparative indicators between Portuguese-speaking institutions. Such initiatives can consolidate a transnational KM policy, capable of promoting a more collaborative, inclusive and social impact-oriented science.

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