Exploring the Role of KM in Integrating ESG Practices into Organizational Strategies

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Abstract: Knowledge Management ("KM") has a key evolving role in supporting businesses to better face the challenges related to the continuous economic and social long-run competitive development under the auspices of the new technologies and to the new advances of the digitization processes that seem to replace the human "*touch.*" This paper investigates the KM integration into corporate strategies as a driver of sustainable practices within the financial sector. It examines, through a bibliometric analysis, how banks can take advantage of KM systems to efficiently capture process-critical relevant information by promoting collaboration and enabling competent decision-making to adopt and develop competitive business models regarding *Environmental, Social, and Governance (ESG) factors*. By examining the impact of KM on sustainability, the paper highlights its potential as a catalyst for driving sustainable development within the financial sector. Considering these issues, our main goal is to identify the most relevant enabling tools of KM, such as to better boost the development of organizational strategies that encourage the development of ESG practices. The paper focuses on companies from the banking sector. The general results highlight the main enablers, also illustrating a series of challenges and presenting correspondingly a set of practical ways to face them, according to our team's vision. Based on these results, our team recommends a holistic vision of KM that has to be integrated into business models to ensure and keep a long-term competitive advantage. The paper is addressed mostly to practitioners and researchers manifesting a special interest in the financial sector. Our paper also has certain research limits, mostly in terms of the number of references identified and analyzed. For further research, we will continue to improve this perspective and enlarge our research.

Keywords: Knowledge management (KM), Sustainability, ESG, Corporate strategy, Banks, Gender diversity

1. Introduction

Integrating environmental, social, and governance (ESG) disclosure requirements into organizations' objectives and strategies is considered as one important and highly relevant topic, emphasizing the importance of long-term sustainable and resilient development. Companies' prospects depend on their level of ESG development, as in addition to regulations that impose ESG compliance requirements, investors place great emphasis on their ESG indicators and on the ratings established by major rating agencies (which also include companies' ESG results in their calculations).

Given these issues, we consider it is important to identify the main organizational factors that might contribute in order to boost ESG performance.

We strongly believe that one of these main key factors is the companies' knowledge management (KM). Effective KM, through knowledge generation (research) and sharing (transparent know-how), might have a better capacity to support both the competitiveness and the sustainability goals of the business.

Thus, our main objective is to analyze which are considered, at the academic level, the most representative enabling tools of KM that highly contribute to stimulating the development of the banks following ESG requirements.

The paper is organized as follows: in Section 2, we highlight some of the most relevant research results in this field based on literature review; in Section 3 we described the research methodology and the main data used; in Section 4, we present our results. The paper ends with conclusions.

2. Literature Review

The literature examining the relationship between knowledge management and ESG performance is growing, with more and more relevant research studies demonstrating a generally positive influence. These studies include among others those by Xia (2022), Saviano et al. (2024), and Alfiero et al. (2025).

Two views remain pervasive in the academic review and the discussion on the merits of governing a knowledge management environment: one envisages the idea of looking at KM as an object, an inert concept, and the other refers to the practice-based perspective (Xia, 2022).

Exploring further the knowledge management theoretical framework, we come across to identify some various approaches of knowledge management. We consider as mostly relevant issues in line with our paper vision the type of strategies that organizations pursue considering also the typology and structure of the organizations.

Consequently, depending on the organizational size and structure, we consider that knowledge management practices might be subject to some deliberate strategies (Cerdan et al., 2007), while other much simpler structures are proper to emergent-type strategies (Bolisani and Scarso, 2005).

When we discuss a company's strategy, there is a need to consider the type of strategy adopted. Minkov and Hofstede (2013) highlight that KM practices have to be significantly anchored into the overall strategies and context. If, for example, the organization is focused on standardized services, we consider that a codification KM framework is more appropriate, while if the organization is operating in an innovative industry, a personalization framework would be more appropriate.

We argue that the initial stages of using KM in integrating ESG practices into the overall organization's strategy cannot rely on one single definitive approach and that a combination of approaches should be put to work such as to better integrate a proper ESG strategy within the financial institution's overall strategies and policies.

As far as we manage to identify within the specialized literature there are not too many research studies performed in order to highlight the role that knowledge management and knowledge management systems may play for better integrating ESG into the overall organizational strategies and policies specific to the financial institutions.

At the European level, there are specific regulations that require banks to incorporate ESG factors into their business strategies. One of the important strategy in line with this approach is based mostly on the board's knowledge related to sustainability. For instance, the Basel Committee on Banking Supervision published in June 2022 the "Principles for the effective management and supervision of climate-related financial risks" (BCCS, 2022).

At the same time, the European Union, through Regulation 2019/2088 on Sustainable Finance Disclosure Regulation (SFDR), aims to increase transparency in the way financial market participants disclose information on how they integrate sustainability (ESG) aspects into their investment strategies so that investors have the most relevant and recent information when they have to decide how to establish their investments.

Reporting issues seems to be very important for all the stakeholders involved directly or indirectly within the ESG integration process. Thus, consequently, the strategy integration prioritizes compliance with regulatory aspects via reporting initiatives over a well-integrated ESG performance. As a result, KM becomes one of the vehicles that may highly contribute to the creation of outputs specific to reporting requirements.

External Stakeholders have to be part of the ESG approach. Building solid adherence to ESG practices should be one of the main objectives of the ESG strategy implementation agenda. For the financial institution, integrating ESG practices into the value chain is essential for a successful strategy.

Employees are the main internal stakeholders, the driving force behind making the ESG integration a successful tool. Leadership should aim at finding the right incentives to involve internal stakeholders in pursuing ESG integration at all levels of the organization.

Management's responsibility is primarily to provide operational input when it comes to integrating the ESG framework into the organizational strategy. Management and of course knowledge management is the binder between leadership and employees, facilitating the guiding activities to ensure proper ESG integration into the organization. Agnese et al. (2024) and Waterstraat et al. (2021) investigated the role of the knowledge endowment of directors on ESG performance within the banking sector (including banks in Europe), and their results highlighted that board knowledge is representative and relevant for ESG ratings.

When it comes to ESG performance, the Board of Directors (BOD) becomes the vehicle for driving a positive integration outcome.

Recent research (Zournatzidou, 2024) shows that encouraging a diversified board membership increases the likelihood of a successful ESG performance within organizations, including financial institutions. BOD diversity was found to lower agency costs (Wu and Chen, 2024) and thus improve the efficiency of ESG performance.

At the European banking sector level, Paolone et al. (2024) showed that board gender diversity and board cultural diversity, individually, have a positive effect on the development of ESG. Their results related to the importance of board gender diversity are confirmed by the study conducted by Galletta et al. (2022), based on a sample of banking sectors from 48 countries, showing that the presence of women in management positions in banks stimulates the E pillar, while Menicucci and Paolucci (2024) demonstrate a similar result on the social dimension, and Luh et al. (2024) confirm the results including for the G dimension.

Bhat et al. (2024) and Pu et al. (2023) also found that board qualification is an important element that positively influences ESG results. Agnese, Arduino, and Taddeo (2024) state that companies that have created a Corporate Social Responsibility (CSR) sustainability committee manage to obtain better corporate social performance.

Another important driver of ESG development is revealed by Wang et al. (2023), who, based on an analysis of Chinese A-share listed companies, highlighted that executive overconfidence plays an important role in the sustainable development process of companies. Lin et al. (2022) highlighted the importance of Research-Development-Innovation (R&D&I) in supporting the link between female management and green innovation.

De Silva, Gunarathne, and Kumar (2024) showed that another factor that contributes significantly to improving companies' ESG reporting is digital knowledge.

On the other hand, Martinez-Meyers et al. (2024) studied the impact of SFDR on the ESG of sustainable funds. The results indicate both an improvement in ESG values and a reduction in sustainability risk as a result of the implementation of this regulation. Further referring to the investment sector, Marszk and Lechman (2024) found, among other things, that tertiary education has a positive influence on ESG exchange-traded funds.

3. Methodology and Data

The main research methodology used in this paper is based on a bibliometric analysis. The data were collected from the Web of Science – Clarivate ("WoS") database and referred to papers published between 2009 – 2025. The research was further extended to include the Scopus database.

The initial keywords used for the WoS research were: 'knowledge management', 'knowledge sharing', "sustainab*", "bank*", and 'ESG'. The keywords were searched in the articles' titles, keyword plus, author keywords, and abstracts using the following categories: 'knowledge management and ESG', 'knowledge management and sustainab* and bank*', and 'knowledge sharing and sustainab* and bank*'.

In order to improve the data used, we have divided our research into primary factors that might impact ESG integration into organizational strategies. The main identified factors are: technology, people, and governance (reporting).

Secondly, we have completed and updated our database using documents obtained by searching the following keywords as criteria: 'technology', 'people', 'governance', 'esg*', and 'bank*', grouped into three categories: 'technology and esg* and bank*', 'people and esg* and bank*', and 'governance and esg* and bank*'.

There were taken into account papers that include the following four categories: *article, review article, proceedings paper, and early access.*

After the screening analysis of the articles generated in WoS, these were filtered such as to exclude those studies that did not exactly correspond to our research objective. The final database for the first computation includes 40 documents, while the updated database includes 89 documents. The data was processed using VOSviewer software, and the analysis we applied was co-occurrence - all keywords (for the number of occurrences of a keyword, we chose the value 3).

The initial keywords used in the Scopus database were "financial institution", "knowledge management", and "ESG strategy". Based on the search, we have obtained a limited number of relevant academic papers, and consequently, the results lead us to further extend our research perimeter.

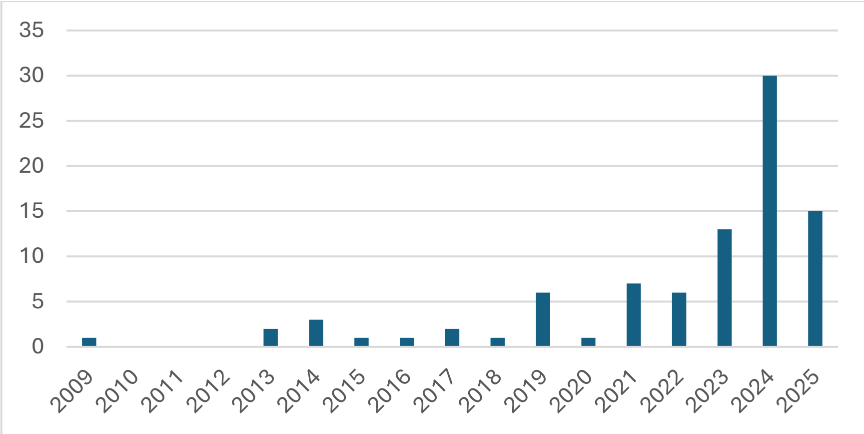
We have refined our research to include the following key terms: "best practices", "sustainability", "ESG strategy", and "banking practices".

We've identified 54 articles because of our refined search in the Scopus database. Given the importance of having a fresh-looking perspective on the envisaged topics, the Scopus search comprises a limited time interval between 2021 and 2025. The resulting academic papers can be categorized as: *articles, conference proceedings*, and *book summaries*.

Following the performed research, using VOS software, we have undertaken an analysis of the co-occurrence and of the bibliographic coupling functions.

4. Results and Discussions

The number of scientific studies, identified by us, that address the link between KM and ESG (or sustainability) for the banking sector is quite low (89 documents), but the data suggests that researchers' interest is currently growing (Figure 1).

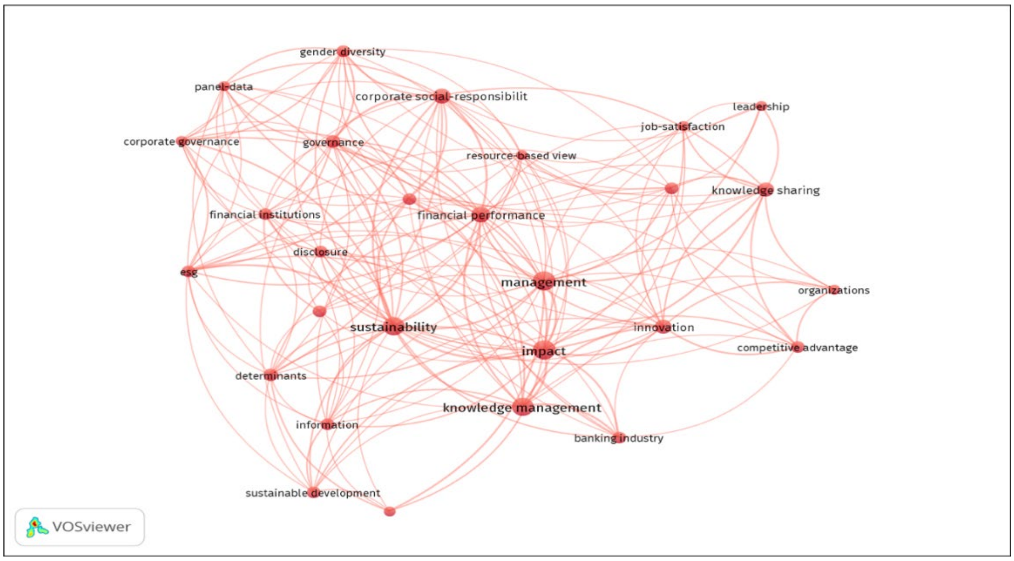


Source: Designed by the authors based on WoS data (available on April 02, 2025)

Figure 1: The number of scientific research studies dedicated to the KM & ESG/sustainability topic for the banking sector

Regarding the source of publication, most articles are published in the Sustainability journal (7 papers), followed by the Journal of Knowledge Management (5 papers).

Even though there is a small number of articles on this topic concerning the financial sector (banking, in particular), the results in Figure 2 show that, indeed, at the level of scientific literature, as far as we manage to identify emphasis is placed on the relationship between KM and ESG (or sustainability) for financial organizations (banks).

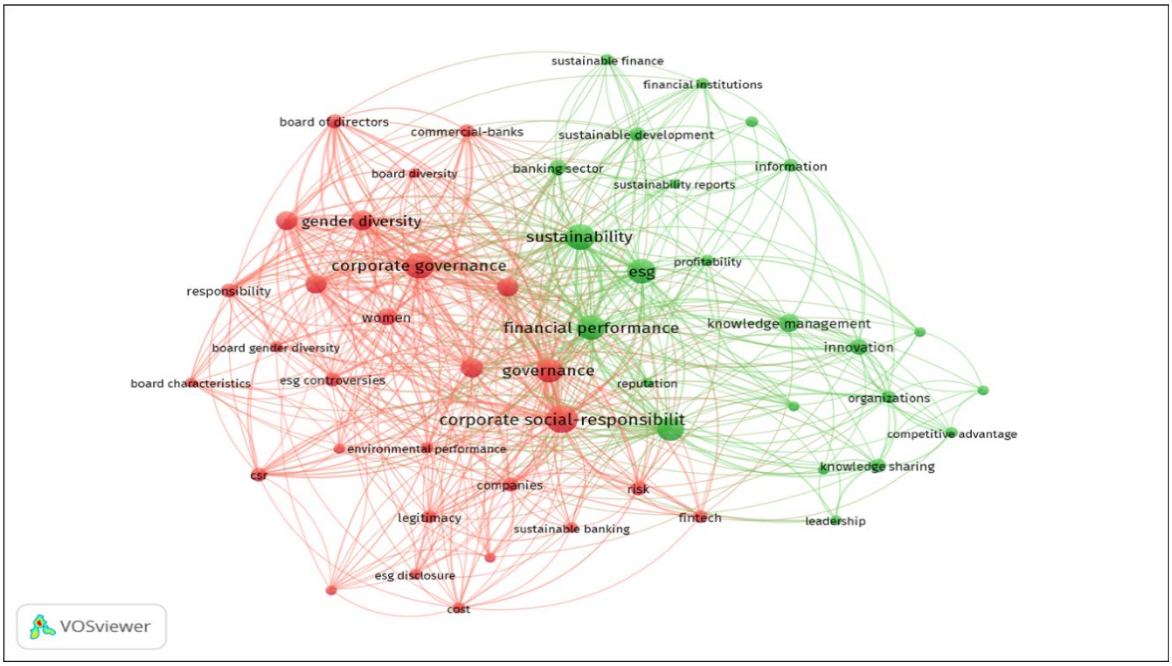


Source: Designed by authors based on WoS data (available on April 01, 2025)

Figure 2: Co-Occurrence Analysis of Key Terms based on the first search criteria (40 documents)

The basic factors that we had identified when analyzing the relationship between KM and sustainability are the company's board management, in general, and gender diversity in particular. These results reinforce the conclusions regarding the banking sector (presented in Section 2) obtained by Paolone et al. (2024), Galletta et al. (2022), Menicucci and Paolucci (2024), and Luh et al. (2024).

Further, after updating the database with the documents obtained based on the second search criteria, we noticed that, first of all, corporate governance appears in scientific research studies related to ESG (controversies and disclosure), and again, board characteristics (gender diversity) are a basic factor (Figure 3).



Source: Designed by authors based on WoS data (available on April 02, 2025)

Figure 3: Co-Occurrence Analysis of Key Terms based on the updated database (89 documents)

Given these results, we consider that it is important to highlight that a practical barrier that could hinder the KM-enabled ESG integration may be the lack of high skills and experience of the board members, considering that ESG requirements are quite recent for the banking practice.

We note that another term that appears in research on this topic is 'fintech'. Digital technologies such as AI play a critical role in filtering and analyzing relevant data. ESG performance involves massive data collection and logical selection. AI might help ensure a more efficient and more effective process.

We consider that by using advanced AI data analytics through Machine Learning (ML) and Natural Language Processing (NLP) might highly contribute to improving the decision-making process for the organization (Xu, 2024).

AI might contribute to mitigating risks for the financial institution, both in terms of identifying as well as preventing risk materialization and ensuring proper risk reporting.

We also believe that careful consideration should focus on the hardware architecture used in order to run AI applications. Thus, we consider that optimization of energy consumption has to be a top priority for the ESG strategy implementation team, as this initiative runs consistently in line with one of the primary ESG objectives (called as power consumption saving).

The implementation of technology, both for endogenous and exogenous purposes, has to take into account also the ethical issues as prerequisites that might ensure transparency, accountability, and fairness in all the relevant areas, including privacy, security, and fair treatment regarding data processing.

We consider that another barrier that could hinder the KM-enabled ESG integration is the large volume of data related to ESG, which requires, among other things, unbiased processing.

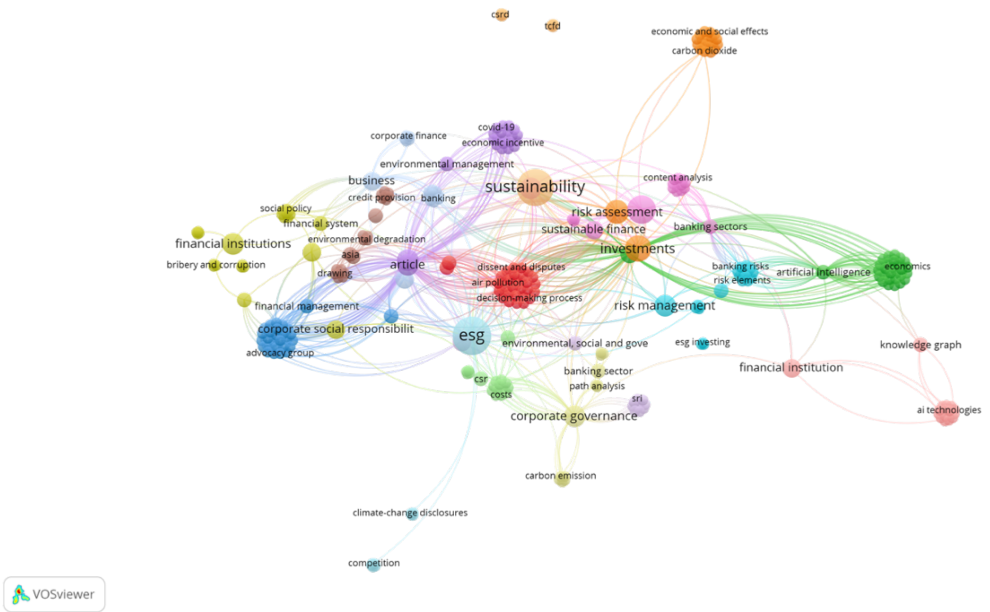
Another important key term in both Figure 2 and Figure 3 is 'leadership'. The role of the leadership stands out when it comes to enabling ESG integration into the financial institution's strategy. In particular, in cultures characterized by high power distance, leadership plays multiple roles: initiator, guide, command center (Minkov and Hofstede, 2013).

Leadership might also act sometimes as a detrimental factor for the success of ESG performance if agency theory is manifesting (Zournatzidou, 2024). Agency costs might become very high if leadership does not offer integral support for ESG strategy integration. The reversal is also true. Lower costs lead to higher efficiencies and, in turn, to a higher market capitalization.

We consider that leadership should embrace the idea of building ESG-related knowledge through external consultants and experts who would assist and support the creation and development of a proper framework for reshaping the business model.

Further, using the VOSviewer software on the Scopus database bibliometric analysis, we've focused on analyzing the frequency of keywords, using co-occurrence functions, the evolution of key terms in the academic literature, and the degree of citations.

The map illustrated in Figure 4 shows the intensity of the key terms identified during the literature review and the connection strength between those items.

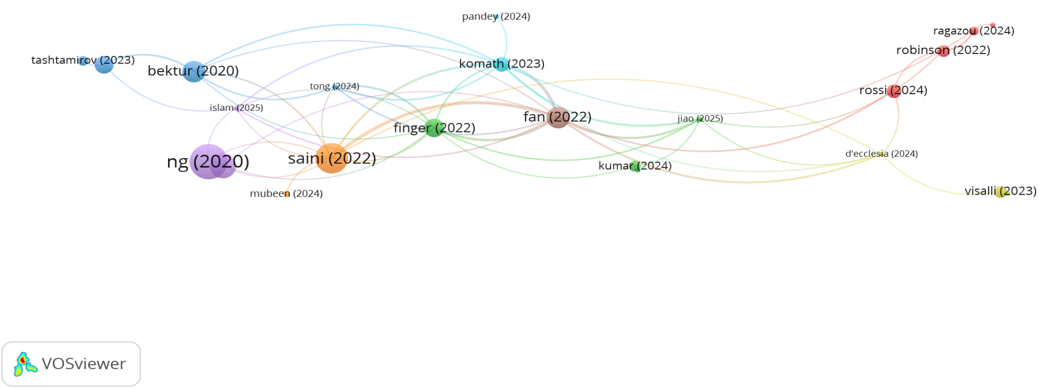


Source: Designed by authors based on Scopus data (available on February 2025)

Figure 4: Co-Occurrence Analysis of Key Terms based on Scopus search criteria (54 documents)

For the Scopus co-occurrence function, the most frequent terms were sustainability, ESG, and corporate social responsibility.

The co-occurrence diagram illustrated in Figure 4 shows a gradual transfer from the general, broad concepts such as sustainability, corporate responsibility, climate change, highlighted in the blue, red and yellow clusters to the more specific concepts such as ESG, corporate governance, risk management, and AI technologies, evidenced in shades of green, teal and pink. The diagram exemplifies the increase in specificity of ESG-related topics and the higher degree of their integration into the organizational functions.



Source: Designed by authors based on Scopus data (available on February 2025)

Figure 5: Bibliographic Coupling of Authors based on Scopus search criteria (54 documents)

The diagram illustrated in Figure 5 shows the focus of mostly cited authors, the degree of concentration of cited authors, as well as the level of connectivity and collaboration between the authors

The diagram highlights that authors focused on broader topics, such as sustainability, corporate responsibility, were more present in the academic literature up to the years 2020/2021, while authors who discuss topics such as ESG and ESG integration and best practices are less present and less cited and connected.

5. Conclusions

Our analysis demonstrates that the scientific literature indicates a link between KM and ESG/sustainability in the banking sector, even if such a conclusion can currently be obtained based on a relatively small number of studies dedicated to this topic. At the same time, we managed to identify one of the main contributors to stimulating this link, namely the management of the companies, with a special emphasis on gender diversity.

The bibliometric analysis performed and the research results show that AI has to be used as an important tool in enabling and even improving ESG performance.

Our research shows that leadership and, in particular, governance practices are enablers of ESG performance and thus it might support and assist the integration of these practices into the overall organizational strategy of financial institutions.

Furthermore, the research analysis shows that ESG compliance through the financial institutions' value chain is growing, providing more opportunities to be properly used also in the financial sector. We appreciate that the number of scientific studies dedicated to this topic will continue to grow exponentially in the coming years, given the importance of ESG/sustainability and the high demand of companies to adapt quickly to the new requirements.

Our paper is addressed to the researchers studying the link between KM and ESG but also to those involved in the development of the knowledge management process at the level of banking organizations.

We consider that the main limitation of this study is represented by the small number of articles and research studies dedicated to this topic. Thus, we highly believe that the research has to be developed and expanded in the future based on a bibliometric analysis carried out for a larger number of inputs, as well as by diversifying the search criteria (for example, the link between KM and each ESG pillar).

Ethics declaration: Ethical clearance was not required for the research.

AI declaration: No AI tools were used for this paper.

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