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# Costs, Challenges, Opportunities, and Benefits of Implementing and Disclosing ESG Strategies in Small and Medium-sized Enterprises: A Structured Literature Review

## Custos, Desafios, Oportunidades e Benefícios da Implementação e Divulgação de Estratégias ESG em Pequenas e Médias Empresas: Uma Revisão Estruturada da Literatura

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## RESUMO

A crescente demanda por responsabilidade socioambiental tem consolidado as práticas ESG (Environmental, Social and Governance) como diretrizes estratégicas também para Pequenas e Médias Empresas (PMEs), que, embora não sejam o foco principal das regulamentações, sofrem pressões indiretas das cadeias de valor. Este estudo analisa custos, benefícios, barreiras e oportunidades da adoção e divulgação de práticas ESG por PMEs, a partir de uma Revisão Estruturada da Literatura, conforme o método de Massaro *et al*. (2016). Foram revisados 29 artigos publicados entre 2004 e 2024 nas bases Scopus, Web of Science e Google Acadêmico. Os resultados mostram que, apesar das limitações financeiras, técnicas e regulatórias, a adoção de práticas ESG pode gerar benefícios estratégicos, como maior acesso a crédito, mitigação de riscos, ganhos operacionais e fortalecimento da competitividade. Conclui-se que o sucesso da implementação depende do alinhamento entre capacidades internas e incentivos externos, como políticas públicas e apoio institucional. O estudo contribui para a literatura contábil ao consolidar evidências sobre o tema e fornecer subsídios teóricos e práticos para gestores, formuladores de políticas e contadores envolvidos na transição sustentável das PMEs.

**Palavras-chave:** ESG; PMEs; Gestão estratégica; Divulgação de informações; Sustentabilidade.

## ABSTRACT

The growing demand for socio-environmental responsibility has consolidated ESG (Environmental, Social and Governance) practices as strategic guidelines for Small and Medium-sized Enterprises (SMEs), which, although not the main focus of regulations, face indirect pressures from value chains. This study examines the costs, benefits, barriers, and opportunities of adopting and disclosing ESG practices by SMEs through a Structured Literature Review, following the method proposed by Massaro et al. (2016). A total of 29 articles published between 2004 and 2024 in Scopus, Web of Science, and Google Scholar were reviewed. The results indicate that, despite financial, technical, and regulatory constraints, ESG adoption can provide strategic benefits such as greater access to credit, risk mitigation, operational improvements, and enhanced competitiveness. It is concluded that successful implementation depends on balancing internal capabilities with external incentives, such as public policies and institutional support. This study contributes to accounting literature by consolidating evidence on the subject and offering theoretical and practical insights for managers, policymakers, and accountants engaged in SMEs' sustainable transition.

**Keywords**: ESG; SMEs; Strategic management; Information disclosure; Sustainability.

## 1. INTRODUCTION

The growing concern with sustainability has consolidated ESG as a parameter to evaluate business performance in environmental, social, and governance issues. Since the UN Global Compact (2004, 2015), the concept has gained strength, especially after the Subprime crisis (2008) and the COVID-19 pandemic (2020), intensifying pressure from investors and regulators for transparency and corporate accountability. In this scenario, governments and international organizations have expanded the requirements related to governance and socio-environmental impact, making sustainability reports increasingly relevant. Even though they are not the direct focus of legal obligations, SMEs are now affected, and accountants take on an expanded role, also acting in the collection, validation, and dissemination of ESG indicators.

In the international context, the European CSRD Directive (Corporate Sustainability Reporting Directive) stands out, which requires large companies to disclose detailed information based on the European Sustainability Reporting Standards (ESRS), published in July 2023. In addition, IFRS S1 and S2, issued by the International Sustainability Standards Board (ISSB) in June 2023, establish global guidelines for the disclosure of risks and opportunities related to sustainability and climate change.

In Brazil, CVM Resolution No. 193, of October 2023, incorporated IFRS S1 and S2 into the regulatory framework for publicly-held companies, reinforcing this trend and making it mandatory to prepare and disclose the report of financial information related to sustainability. This report must follow the rules issued by the Brazilian Sustainability Pronouncement Committee and approved by the CVM. The rule also requires that the document be secured by an independent auditor registered with the CVM, in accordance with the rules of the Federal Accounting Council, placing the accounting professional as the protagonist of this process.

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Although ESG regulatory requirements focus on large corporations, they also affect SMEs inserted in their value chains, which are now charged for practices and data aligned with current standards (Krawczyk, 2021). Even without a formal obligation to disclose (Haag, 2024; Krawczyk, 2021; Harsanto et al., 2023), many proactively adopt ESG guidelines to access regulated markets, expand credit, and anticipate future requirements, which reduces risks, attracts investments, and strengthens competitiveness(Joy-Camacho; Thornhill, 2024; Jô; Kwon, 2022). Thus, these companies are prepared to take advantage of opportunities such as those brought by the "Acredita Exportação para MSE" program launched by the Brazilian federal government in July 2025, which aims to expand the export base of micro and small enterprises (MSEs) through the return of federal taxes paid in the production chain of exported industrial goods, reducing costs and expanding the presence of MSEs in the international market.

However, although several opportunities arise for SMEs from the adoption of ESG practices, the scarcity of financial resources, the lack of technical knowledge, and regulatory obstacles make it difficult for them to adapt to sustainable standards (Bielawska, 2022; Bivona; Scirè, 2024). In order for these companies to understand the challenges that exist in this journey, the transition costs to take advantage of the opportunities and enjoy the benefits generated, it is important to systematize the existing knowledge on the subject, which is fragmented in different contexts (Rusmanah; Riswanti; Fadhillah, 2024) and develop strategies for capacity building, access to financing, gradual adoption of practices, and adaptation to regulatory requirements, in order to align the operation with competitiveness and sustainability at the same time.

In this context, this study seeks to answer the following research question: **what are the costs and benefits of adopting ESG strategies in SMEs, as well as the barriers to their implementation and the opportunities generated by these practices?** Its general objective is to identify the costs and benefits of adopting ESG strategies by SMEs, as well as the barriers and opportunities generated by the adoption of these practices. To this end, a Structured Literature Review was carried out as proposed by Massaro *et al.* (2016) for accounting studies, with data collected from articles published in the Scopus, Web of Science, and Google Scholar databases for the period from 2004 to 2024.

Small and Medium Enterprises represent an essential pillar of the global and local economy, mainly for job creation and innovation, but they face significant barriers to adopting ESG practices. Although the literature indicates that the adoption of ESG practices can strengthen the competitiveness of SMEs (Jo; Kwon, 2022; Camelo; Nogueira, 2024), improving their access to credit (Dzomonda, 2022; Yoon-Su, 2023), and its organizational resilience (Garrido-Ruso *et al*., 2024; Pinedo-López *et al.*, 2024), offering advantages such as reduced operational risks (Joy-Camacho; Thornhill, 2024) and process optimization (Cronin; Doyle-Kent, 2022; Jiang et al., 2023), the understanding that SMEs have about ESG issues is superficial (Rusmanah; Riswanti; Fadhillah, 2024). The lack of evidence on the costs and barriers faced by these companies makes it difficult to formulate policies and strategies that facilitate their implementation.

Thus, this research is justified by the need to identify the costs and benefits of adopting ESG strategies in SMEs, as well as the barriers to their implementation and the opportunities generated from these practices. Based on the structured literature review, the study will contribute to a more detailed understanding of the real impacts of ESG on SMEs, offering *insights* for managers, investors, and public policy makers.

This study deepens the understanding of the viable adoption of ESG practices by SMEs, reconciling sustainability and competitiveness in the long term. In the theoretical field, it contributes by systematically analyzing costs, benefits, barriers and opportunities, in addition to proposing strategies for implementation, expanding knowledge on the subject. From a practical perspective, it offers subsidies to managers' decision-making, identifies difficulties and incentives, and provides *insights* for public policies and investors in the creation of mechanisms that make the adoption of ESG practices more accessible and effective for SMEs.

## 2. LITERATURE REVIEW

The concept of sustainable development, widely disseminated from the Brundtland Report, prepared by the World Commission on Environment and Development in 1987, refers to the ability to meet the needs of the present without compromising the possibility of future generations to meet their own demands. This perspective integrates the economic, environmental, and social dimensions, requiring economic agents to assume broader responsibilities in relation to the environment and society.

In this context, the ESG (*Environmental, Social and Governance) agenda stands out*, which establishes criteria to evaluate business performance in an integrated and responsible manner. Consolidated in the global corporate environment in recent years, the acronym goes beyond simple regulatory compliance, the genuine adoption of its principles can boost organizational performance and increase the attractiveness of companies to investors, overcoming merely superficial approaches (Dwimayanti *et al*., 2023). The term emerged in 2004, in a publication by the Global Compact, in partnership with the World Bank, entitled *Who Cares Wins* (United Nations, 2004). At the time, the then UN Secretary-General, Kofi Annan, urged leaders of large financial institutions to reflect on how to integrate environmental, social and governance factors into the capital market. Since then, the incorporation of these principles into corporate financial strategies has been shown to strengthen economic performance and organizational resilience in the face of reputational, regulatory, and market risks (Astuti *et al.*, 2024).

The commitment to sustainability and ESG criteria has thus become a strategic element for companies of all sizes. Large corporations have been pressured by investors, consumers, and regulators to integrate these aspects into their governance (Warouw *et al.*, 2024). However, this requirement also extends to small and medium-sized companies, although with different challenges. SMEs, despite having less structure and limited resources, represent a significant portion of the global economy, which gives them an essential role in sustainable transformation (Stubbs *et al.*, 2023).

While often overlooked in ESG discussions, SMEs can benefit significantly from adopting practices that align with sustainability principles. The integration of ESG criteria can generate relevant benefits for SMEs, such as increased operational efficiency and improved reputation in the market, with transparency and strategic planning being essential factors in this process (Kurtanović; Kadušić, 2024). In addition, sustainable practices can be adapted to SMEs by taking advantage of their organizational agility and internationalization, which strengthen rapid adaptation to sustainability demands and expand access to knowledge, resources, and international standards, contributing to increased competitiveness (Clemente-Almendros; García; Blanco-Hernández, 2025).

Thus, understanding the inclusion of SMEs in the ESG agenda, as well as the challenges and benefits arising from the adoption of these practices, is a fundamental element for promoting sustainable development that is inclusive, effective, and aligned with contemporary demands.

## 3. METHODOLY

This study adopts a qualitative approach for exploratory purposes. A bibliographic research was carried out from a Structured Literature Review (REL). REL is a system review method developed by Massaro, Dumay and Gurthrie (2016) for accounting studies. It is a set of guidelines, which provides greater transparency and less bias in the performance of research, in addition to offering measures and techniques for validation and reliability.

As proposed by Massaro, Dumay and Gurthier (2016), research questions were developed that guide the Structured Literature Review:

Q1: What are the sustainable practices in small and medium-sized enterprises?

Q2: What are the benefits of adopting sustainable practices? small and medium-sized enterprises?

Q3: What are the opportunities generated by adopting sustainable practices in small and medium-sized enterprises?

Q4: What are the costs of implementing sustainable practices in small and medium-sized enterprises?

Q5: What are the challenges of implementing sustainable practices in small and medium-sized enterprises?

Based on the principle of transparency, the scope and limits of the research were determined. To compose the structured review, the studies were selected from the Scopus, Web of Science (WoS) and Google Scholar (GA) databases. Scopus and Web of Science stand out for their comprehensiveness and methodological rigor, indexing articles from highly regarded journals, which contributes to the quality of literature reviews (Falagas *et al.*, 2007). On the other hand, Google Scholar, although less rigorous in the selection of indexed articles, allows access to a diversity of sources, including works of lesser visibility, but which can offer relevant contributions to the theme under analysis (Haddw; Genoni, 2010).

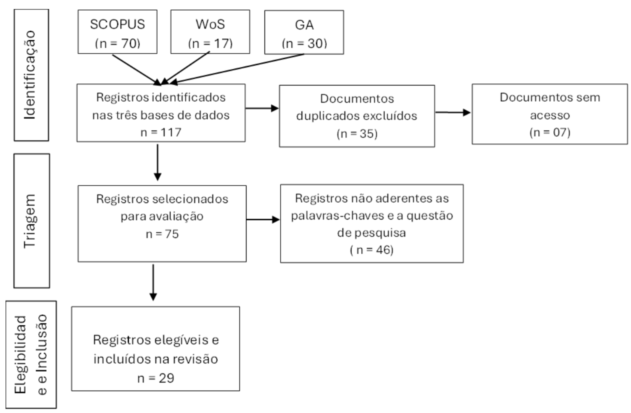
The Boolean expressions used for the search in the Scopus and WoS databases were formed from the words keywords and searched in the title, abstract and keywords fields in Scopus, and in the title field in WoS: ("environmental, social and governance" or "ESG") and ("SMEs" or "small and medium enterprises"). In the Google Scholar database, in the "advanced search" tool, the keyword "SMEs" was included in the "all words" field and, in the "at least one of the words" field, the keywords "ESG" or "environmental, social and governance" for searches carried out in the titles of the documents.

The selection process followed guidelines in the literature and adopted inclusion and exclusion criteria (Alhossini; Ntim; Zalata, 2021). Only documents published in peer-reviewed journals were considered, which are indicators of the quality of primary research, minimizing the chances of including low-quality and unreliable analyses in the review (Thomé; Scavarda; Scavarda, 2016). Another criterion observed in the inclusion of the documents was the fact that they address ESG and were published in the period from 2004, the year in which the term was coined in the *Who Cares Wins* report, to December 3, 2024, the date of the survey. Duplicate documents, unavailable for free access through the CAPES Journal Portal, and not adhering to the survey questions were excluded.

This survey in the three databases resulted in 117 documents. However, after the removal of duplicate articles and articles without access through the CAPES Journal Portal, the number was reduced by approximately 35%, totaling 75 documents. These documents were then filtered by reading their abstracts to verify their adherence to the study. The objective was to select articles related to ESG strategies, including the implementation and dissemination of sustainable practices in SMEs, that reported these practices and/or the difficulties faced, associated costs and benefits, and opportunities generated. After this filter, the final sample consisted of 29 articles.

Figure 1 presents the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) flowchart, illustrating the review process and the number of articles included and excluded in each step, per database.

**Figure 1 –** PRISMA flow diagram




**Source:** Adapted from Alhossini, Ntim and Zalata (2021).

With the final sample, the full reading of the articles and the categorization of the data were carried out, organized in an analytical table with the categories of analysis presented in Chart 1.

**Table 1 –** Analytical table

| CATEGORY | CONCEPT | THEORETICAL FOUNDATION |
|---|---|---|
| Sustainability practices | Set of actions and policies adopted to reduce its environmental impact, promote social responsibility and ensure ethical and transparent governance. | Nagai (2021) |
| Benefits | Advantages and gains obtained by adopting ESG practices, which can be tangible or intangible. | Amaral,Willerding e Lapolli (2024) |
| Opportunities | Potential areas of growth and innovation that arise when integrating ESG practices. | Lima *et al.* (2024) |
| Costs | Expenses and investments required to implement and maintain ESG practices. | Shalhoob e Hussainey (2023) |
| Challenges | Difficulties faced in adopting ESG practices | Amaral,Willerding e Lapolli (2024); Lima *et al.* (2024) |

**Source:** The Authors (2025)

To ensure the reliability of the review and reduce subjectivity, the selection and categorization criteria were previously defined in a structured protocol, promoting transparency and replicability, which are differentials of the Structured Review in relation to traditional approaches (Massaro; Dumay; Guthrie, 2016). The internal validity of the research was guaranteed based on the construction of the categories aligned with the research questions, and on the comparison between empirical and theoretical standards (pattern correspondence).

The review data were organized in an electronic spreadsheet based on the criteria established in the research protocol and in an Analytical Chart and analyzed manually, allowing a critical and systematic reading of the contents. To deepen the interpretation of the results, the SWOT methodology (*Strengths, Weaknesses, Opportunities, Threats) was applied* as an analytical tool. The SWOT analysis allowed the organization of internal factors (strengths and weaknesses) and external factors (opportunities and weaknesses) threats) that influence ESG adoption in SMEs. In addition, it enabled the development of strategies by crossing these variables, contributing to a more strategic understanding of the research findings.

## 4. RESULTS

### 4.1 Sustainability

Sustainability in SMEs is an essential factor for their continuity and competitiveness in the market. The results of the survey show that the implementation of sustainable practices depends on a combination of internal awareness, effective leadership, and well-structured strategies. In this context, several studies highlight key approaches and initiatives to integrate sustainability into business operations, as shown in Table 2.

**Table 2 -** Sustainability practices identified in SMEs

| SUSTAINABILITY PRACTICES | THEORETICAL BASIS |
|---|---|
| Employee awareness. | Papademetriou *et al.* (2023) |
| Green Human Resource Management. | Belas *et al.* (2024); Papademetriou *et al.* (2023) |
| Transformational leadership. | Lee E.S., Lee B.S. e Kim (2024); Nam, Lee e Kim (2024); Zhu e Huang (2023) |
| Governance practices and anti-corruption actions. | Belas *et al.* (2024); Kim JK., Kim MS. and Ahn (2022) |
| Carbon neutrality actions, waste management, supply chain sustainable supplies, health and safety at work. | Kim JK., Kim MS. e Ahn (2022) |
| Eco-friendly packaging, sustainable transport and setting carbon reduction targets. | Jiang *et al.* (2023) |
| Integration of risk management with internal initiatives and a clear sustainability strategy. | Cronin e Doyle-Kent (2022) |
| Use of self-assessment model to consolidate the transition and implement sustainable practices. | Murè *et al.* (2024) |

**Source:** Prepared by the authors (2025).

Employee awareness plays an essential role in adopting sustainable practices. Belas *et al.* (2024) identified Corporate Social Responsibility (CSR) practices, participatory leadership in Human Resources Management (HRM) and anti-corruption measures within the scope of Business Ethics (EE) as factors that encourage the acceptance of the concept of ESG practices by SMEs. Papademetriou *et al.* (2023) highlight the importance of Green Human Resource Management (GHRM), which encourages ecologically responsible behaviors and strengthens sustainable organizational culture. In this sense, transformational leadership, focused on people development, is fundamental for the ESG performance of SMEs. This type of leadership promotes innovation, improves sustainability, ESG performance, and organizational performance (Lee E.S.; Lee B.S.; Kim, 2024; Nam; Lee; Kim, 2024; Zhu; Huang, 2023).

To ensure long-term sustainability, the integration of companies' overall risk management with ESG risk management and internal initiatives becomes essential. Cronin and Doyle-Kent (2022) emphasize the need for a clear strategy for addressing ESG risks, which includes the creation of teams dedicated to sustainability. In this sense, Murè *et al.* (2024) reinforce that a conceptual model of self-assessment is essential to consolidate this transition and ensure the effectiveness of the practices adopted.

ESG management is a key pillar for SMEs to operate sustainably and competitively. Kim J.K., Kim M.S., and Ahn (2022) observed that ESG activities encompass actions such as carbon neutrality, waste management, and a sustainable supply chain, as well as practices aimed at occupational health and safety, in addition to the expansion of governance with a focus on autonomy, profitability, fair trade, and the fight against corruption. In addition, according to Jiang *et al.* (2023), practices such as eco-friendly packaging, sustainable transport, and setting carbon reduction targets are essential for integrating ESG and natural resource management in SMEs.

## 4.2 Challenges to integrate ESG practices in SMEs

Several studies point out that the implementation of ESG practices in SMEs faces interconnected challenges that compromise the effectiveness and sustainability of these initiatives. These challenges are presented in Table 3.

**Chart 3 -** Challenges faced by SMEs in adopting ESG practices

| CHALLENGES | THEORETICAL BASIS |
|---|---|
| Financial limitations | Yoon-Su (2023); Gjergji *et al.* (2020); Gholami, Murray and Sands (2022); Pinedo-López *et al.* (2024) |
| Difficulty in measuring and monetizing ESG efforts | Garrido-Ruso *et al.* (2024) |
| Lack of employee training and shortage of Specific technical knowledge and skills | Camelo and Nogueira (2024); Papademetrio *et al* (2023); Joy-Camacho and Thornhill, (2024); Yip, Yu and Ip (2024); Yoon-Su (2023) |
| Failures in internal communication and lack of knowledge of green policies | Papademetriou *et al.*, (2023) |
| Complexity of ESG reporting and standards | Tsang, Fan e Feng (2023); Shalhood e Hussainey (2023); Jeong e Kim (2023); Yip e Yu (2023); Kassem and Trenz (2020) |
| Lack of human resources | Joy-Camacho and Thornhill (2024) |
| Low awareness of managers | Belas *et al.* (2024); Kim J.K., Kim M.S. e Ahn (2022); Shalhood e Hussainey (2023) |

**Source:** Prepared by the authors (2025).

The adoption of ESG practices by Small and Medium-sized Enterprises (SMEs) is hampered by prominent internal barriers, with emphasis on the scarcity of technical knowledge and human resources. The literature points to the low awareness and unpreparedness of managers as a primary obstacle (Belas *et al.*, 2024; Shalhoob; Hussainey, 2023). This difficulty is accentuated by the lack of specific technical skills to deal with issues of sustainability and governance (Camelo; Nogueira, 2024; Yoon-Su, 2023; Yip; Yu; Ip, 2024), which generates high costs with training and adaptation of personnel (Gjergji *et al.*, 2020; Gholami; Murray; Sands, 2022). The challenge is compounded by failures in internal communication and the ack of knowledge of green policies, especially in the area of people management (Papademetriou *et al.*, 2023). As a consequence, the perception that the implementation of environmental management systems is slow and not very advantageous (Joy-Camacho; Thornhill, 2024). Added to the internal challenges is the complexity of the regulatory ecosystem. The current disclosure structures and standards are considered complex and difficult to apply for the SME segment (Tsang; Fan; Feng, 2023; Shalhoob; Hussainey, 2023), causing the quality of its ESG reporting to be often lower than necessary (Yip; Yu, 2023). Empirical evidence demonstrates that the absence of localized versions of these patterns promises its standardization and effective adoption (Jeong; Kim, 2023). The very complexity of sustainability indicators makes implementation difficult, justifying proposals for automated models to facilitate the reporting process (Kassem; Trenz, 2020).

This scenario, which demonstrates a low level of general maturity of SMEs on the subject, reinforces the need for continuous educational actions for qualification and awareness (Kim, J.K.; Kim, M.S.; Ahn, 2022). In developing country contexts, the challenge is even greater, since a precarious technological infrastructure can make it difficult or even impossible to adopt more advanced sustainable practices (Pinedo-López *et al.*, 2024). Often, these organizations need to focus their efforts on their own survival, which further limits their ability to invest in sustainable strategies (Yoon-Su, 2023).

## 4.3 Costs for implementing ESG practices in SMEs

The implementation of ESG strategies imposes significant financial barriers on Small and Medium Enterprises, with the associated costs being one of the main challenges. The costs charged to SMEs in adopting ESG practices mapped in the literature are presented in Chart 4.

**Table 4 -** Costs inherent to the implementation of ESG practices in SMEs.

| COSTS | THEORETICAL BASIS |
|---|---|
| Financial overload and Administrative | Kim J.K., Kim M.S. e Ahn (2022); Zhu *et al* (2024); Cronin e Doyle-Kent (2022) |
| High transition cost and sustainable materials | Camelo e Nogueira (2024) |
| ESG can increase the cost of capital for SMEs | Gjergji *et al.* (2020) |

**Source:** Prepared by the authors (2025).

The literature highlights cost overload as the biggest obstacle to effective ESG management, manifesting itself in several aspects, such as the increase in administrative burdens to comply with regulations, the need for investment in training for the development and monitoring of metrics, and the increase in operational costs of the transition to more sustainable practices. such as the use of ecological materials (Camelo; Nogueira, 2024; Cronin; Doyle-Kent, 2022; Kim, J.K.; Kim, M.S.; Ahn, 2022).

In addition, the relationship between ESG performance and financial value generation is complex. While sustainable practices can add value in the early stages, there is an inflection point at which cost pressure can outweigh benefits, negatively impacting value creation (Zhu *et al.*, 2024). In contrast, and in contrast to large corporations, the disclosure of ESG information by SMEs can generate a paradoxical effect: the increase in the cost of capital. A study of Italian companies indicates that this transparency significantly increases financing costs for smaller organizations, although this effect is not affected by family business status (Gjergji *et al.*, 2020).

## 4.4 Opportunities arising from the adoption of ESG in SMEs

Despite the existing challenges and inherent costs, the adoption of ESG practices represents a strategic opportunity for SMEs, driving competitive, financial, and market advantages, as shown in Exhibit 5.

**Table 5 -** Opportunities generated for SMEs from the adoption of ESG practices.

| OPPORTUNITIES | THEORETICAL BASIS |
|---|---|
| Improved access to credit | Dzomonda (2022); Yoon-Su (2023); Wang, Yu e Wei (2023) |
| Innovation | Camelo and Nogueira (2024); Nam; Lee & Kim (2024) |
| Market growth | Shalhoob e Hussainey (2023), Joy-Camacho and Thornhill (2024) |
| Competitive Advantage | Camelo and Nogueira, 2024; Shalhoob and Hussainey (2023); Jo and Kwon (2022) |
| Transition to circular economy | Jones *et al.,* (2023) |
| Addressing shortages in the value chain | Jones *et al.* (2023) |

**Source:** Prepared by the authors (2025).

The commitment to sustainability and good governance favors transparency and expands access to finance (Dzomonda, 2022), improving the ESG rating of companies. These classifications make it easier to obtain financial resources and government support (Yoon-Su, 2023). This effect is intensified by mechanisms such as supply chain financing, which expands access to capital and encourages sustainable practices among partners (Wang; Yu; Wei, 2023).

Environmental collaboration in the supply chain contributes to greater efficiency and competitiveness (Jo; Kwon, 2022), consolidating the position of companies in markets that value sustainability. The adoption of ESG strategies promotes innovation, growth and competitive advantage (Camelo; Nogueira, 2024; Shalhoob; Hussainey, 2023), as well as aligning SMEs with macro and economic goals, such as dual-carbon in China (Jiang *et al.*, 2023). Internally, ESG drives efficiency and innovation. The adoption of Environmental Management Systems (EMS) optimizes the use of resources, ensures legal compliance and generates market advantages (Joy-Camacho; Thornhill, 2024). Transitioning to models such as the circular economy makes it possible to address scarcity and waste across the value chain (Jones *et al.*, 2023). Thus, ESG acts as a catalyst for innovation and organizational performance in SMEs (Nam; Lee; Kim, 2024).

## 4.5 Benefits of implementing ESG practices in SMEs

The adoption of ESG practices and strategies generates value for SMEs by providing several benefits, including improvements in performance, reputation, and organizational resilience. The benefits identified in the literature are presented in Chart 6.

**Chart 6 -** Benefits arising from the adoption of ESG practices in SMEs

| BENEFITS | THEORETICAL BASIS |
|---|---|
| Improved environmental performance | Jo e Kwon (2022) |
| Improved business performance | Jo e Kwon (2022) |
| Increased transparency | Cronin e Doyle-Kent (2022) |
| Strengthening reputation | Bivona e Scirè (2023); Yoo-Su (2023) |
| Shareholder value creation | Bivona e Scirè (2023) |
| New revenue streams | Cronin e Doyle-Kent (2022) |
| BENEFITS | THEORETICAL BASIS |
| Strengthening the positive impact of CSR initiatives on green innovation | Hasan *et al.*, 2024 |
| Customer satisfaction | Pinedo-López *et al.* (2024) |
| Employee retention | Pinedo-López *et al.* (2024) |
| Increased organizational resilience | Garrido-Ruso *et al.* (2024); Pinedo-López *et al.* (2024) |
| Employee engagement | Papademetriou *et al.* (2023) |

**Fonte:** Elaborado pelas autoras (2025).

Sustainable management, when integrated into the supply chain, contributes not only to environmental performance, but also to business performance, conferring a long-term competitive advantage (Jo; Kwon, 2022). In this process, the accountant plays a strategic role in ensuring the traceability, reliability and standardization of socio-environmental information throughout the chain, contributing to transparency and efficient management of risks and costs. This quest for sustainability, formalized through ESG reporting, results in the creation of more resilient businesses, improved assessment of financial and climate risks, and increased transparency for consumers (Cronin; Doyle-Kent, 2022). This transparency improves the company's reputation and generates value for shareholders (Bivona; Scirè, 2023), being enhanced by ESG ratings, which also increase the credibility and image of SMEs (Yoon-Su, 2023), in addition to positively influencing other performance indicators, such as customer satisfaction and employee retention (Pinedo-López *et al.,* 2024).

In addition, the benefits extend to the generation of operational value and the promotion of innovation. The integration of ESG criteria into business processes can lead to the creation of new revenue streams, cost reduction, and the acquisition of valuable *operational insights* (Cronin; Doyle-Kent, 2022). This movement to incorporate sustainability into decision-making is what, ultimately, enhances the ability to innovate. The disclosure of ESG practices, for example, strengthens the positive impact of Corporate Social Responsibility (CSR) initiatives on green innovation (GI), consolidating sustainability as a strategic pillar of the company (Hasan *et al*., 2024).

Finally, robust social and labor practices strengthen the organizational resilience, especially in times of crisis, such as the of COVID-19 (Garrido-Ruso *et al*., 2024). This resilience is essential in an uncertain global landscape, where business adaptability becomes crucial (Pinedo-López *et al*., 2024). Strategies such as Green Human Resource Management (Green HRM) amplify this adaptability by promoting engagement and reinforcing institutional reputation (Papademetriou *et al*., 2023).

## 4.6 Strategies for the adoption and dissemination of ESG in SMEs

Based on the principles of SWOT analysis, it was possible to observe, from an internal point of view, forces related to the potential of ESG practices to generate strategic value, such as strengthening reputation, access to more demanding markets, and the possibility of organizational innovation. On the other hand, the weaknesses evidenced involve the scarcity of technical knowledge, high initial costs and the limitation of human and operational resources, which compromise the capacity for planning and structured implementation of these practices.

As for external factors, relevant opportunities are identified, such as the emergence of public incentives, capacity programs, and the valorization of sustainable supply chains by large corporations and investors. On the other hand, the threats involve increasing regulatory complexity, the absence of standardization in ESG disclosure, the risks of *greenwashing,* and the structural barriers common in developing countries, such as technological deficiencies and low integration into effective public policies.

From the intersection of internal and external factors, it is possible to outline four main strategic groups, which can guide both managers and public policy makers in encouraging the adoption of ESG by SMEs, as shown in Chart 7:

**Chart 7 -** Strategies for ESG adoption and disclosure in SMEs

| **1. Using Strengths to Seize Opportunities** | **3. Use Strengths to Reduce Threats** |
|---|---|
| → Use good positioning in sustainable chains and positive reputation to access green credit lines, ESG financing and environmental certification programs. | → Position yourself as a preferred supplier to large companies committed to ESG, minimizing the impact of regulatory barriers. |
| → Leverage the capacity for innovation as a competitive advantage in markets that value sustainable practices. | → Create reputational value as a shield against external pressures and stricter regulatory requirements. |
| → Encourage the voluntary adoption of ESG practices as a tool for differentiation and generation of added value. | → Explore strategic alliances with *startups* or technology partners to address structural constraints. |
| **2. Minimize weaknesses by taking advantage of opportunities** | **4. Minimize Weaknesses and Avoid Threats** |
| → Invest in technical training through public programs or institutional partnerships, reducing the lack of knowledge about ESG. | → Develop simplified models of ESG reports, adapted to the reality of SMEs, with the support of consultancies or public institutions. |
| → Seek support from class associations, cooperatives and *innovation* hubs to share operating costs and access best practices. | → To press for public policies that simplify standards and offer specific technical and financial support. |
| → Prioritize low-cost, high-impact actions as a starting point, promoting a gradual transition. | → Strengthen internal governance to avoid inconsistent practices or perceptions of *greenwashing*. |

**Source:** Prepared by the authors (2025).

## 4.7 The role of the accountant in the adoption of ESG practices in SMEs

The accountant plays a strategic role in the adoption of ESG practices by Small and Medium-sized Enterprises (SMEs), especially in view of the technical, financial, and regulatory limitations that mark this process. It is essential for understanding and implementing complex regulatory frameworks related to ESG, interpreting and adapting complex standards to the reality of smaller companies. Its performance enables the structuring of systems for the registration, control and disclosure of ESG information, promoting standardization, reliability and transparency. By integrating ESG practices, accountants can help SMEs improve operational efficiency and reputation in the market, ultimately resulting in improved financial performance (Adenan *et al.*, 2023).

In addition to supporting regulatory compliance, the accountant is essential in identifying, measuring, and monitoring the costs associated with the sustainable transition — such as investments in training, operational adjustments, and the acquisition of sustainable inputs. Based on this information, it contributes to the assessment of the economic viability of ESG actions and to more efficient decisions, preventing opportunities from being discarded by mistaken perceptions of cost.

Accounting also makes it possible to measure tangible and intangible benefits, such as reputational gains, attraction of investments and increased organizational resilience. By translating these impacts into understandable and verifiable data, it strengthens the relationship with *stakeholders* and expands access to financing and incentive programs. SMEs advised by structured accounting practices tend to present improved financial reporting, which leads to lower risk perception and better access to credit.

Continuous professional development in ESG-related competencies is crucial for accountants, enabling them to provide relevant *insights* and support to SMEs on their sustainability journeys (Farhan *et al.*, 2024). Investment in education and training for accountants can empower SMEs to overcome barriers to ESG adoption, such as financial constraints and lack of technical expertise (Kurtanović; Kadušić, 2024). Thus, accounting is no longer just a financial recording instrument to become a fundamental pillar of sustainable governance and the competitiveness of SMEs.

## 4.8 Gaps in the Literature and Directions for Future Research

Despite the advancement of discussions on ESG in SMEs, there is still a lack of studies that objectively measure its impact on financial indicators, such as ROA, ROI, liquidity, and profitability. This gap makes it difficult to assess the economic viability of the sustainable transition.

and undermines the formulation of evidence-based policies and strategies. Future research can explore this relationship through quantitative comparative analyses between SMEs that adopt and those that do not adopt ESG practices, allowing for more accurate measurements, benefits, and economic gains.

Studies investigating the effects of ESG adoption on risk management, cost of capital, and access to finance in SMEs are also rare. The absence of robust evidence limits the understanding of how the integration of these criteria can reduce operational, legal, and reputational risks, as well as improve credit conditions and attract investments. Longitudinal and comparative approaches can reveal whether the ESG agenda effectively contributes to reducing uncertainties and strengthening the financial position of these companies. Another gap refers to the use of digital technologies in the management and dissemination of ESG practices in SMEs.

Few studies analyze how artificial intelligence, blockchain, big data, and automation can optimize the collection, analysis, and reporting of information, overcoming operational and financial barriers, especially in contexts of low digital maturity. Future research could explore how these solutions make ESG management feasible and standardize.

Finally, there is a lack of specific indicators and frameworks for SMEs, adapted to their resource constraints and technical capabilities. The absence of standardized metrics makes it difficult to monitor and evaluate results, and the lack of practical methodologies limits the gradual and sustainable incorporation of ESG into the operation and strategy. Future studies could propose and empirically test sets of indicators and implementation guides, expanding the impact and alignment of ESG practices with the long-term objectives of SMEs. Finally, there is a large concentration of studies in Asia, few studies in Europe and Africa, and a lack of evidence in the Latin American context. Thus, it is suggested that new studies explore the evidence of ESG adoption in Latin America and expand those already existing in Europe and Africa.

## 5. CONCLUSION

The growing demand for social and environmental responsibility and recent advances in regulatory frameworks have increased the relevance of the adoption and disclosure of ESG practices, also affecting SMEs, albeit indirectly. This study aimed to analyze the costs, benefits, barriers and opportunities related to the adoption of these practices by SMEs, through a Structured Literature Review.

The results made it possible to identify the main ESG practices adopted by SMEs, such as actions aimed at energy efficiency, waste management, employee well-being, and organizational transparency. However, the adoption of these practices is hampered by relevant challenges, such as the scarcity of knowledge, financial and operational limitations, and the complexity of regulations. In addition, high costs related to implementation, adaptation to disclosure standards, and structuring reports were observed, especially in resource-constrained contexts.

Despite these challenges, the literature points out that the integration of ESG criteria can generate new opportunities for SMEs and, consequently, benefits such as improved institutional image, access to new markets and sources of financing, and risk mitigation, contributing to the long-term competitiveness and sustainability of these organizations. Thus, startup costs tend to be offset by strategic and operational gains over time.

Given this scenario, overcoming the challenges in the adoption of ESG practices by SMEs requires a strategic and collaborative approach, involving *stakeholders* and promoting an organizational culture focused on sustainability. The SWOT analysis showed that the use of opportunities depends on the alignment between internal capacities and external support mechanisms, such as public policies, green credit and training. In the long run, this integration strengthens the competitiveness of SMEs and contributes to a more sustainable and responsible development model.

It is concluded that, despite the specific obstacles faced by SMEs, the incorporation of ESG practices represents more than an ethical commitment — it is a concrete opportunity for organizational strengthening and sustainable value generation. To this end, it is essential to articulate public incentive policies, technical training programs and management models adapted to the reality and limitations of this segment. From a practical point of view, the findings offer subsidies for managers to understand the concrete impacts of the ESG agenda and make more informed decisions about its adoption. For accounting, especially after the incorporation of IFRS S1 and S2 into the Brazilian regulatory framework, the strategic role of the accountant in guiding, recording, disclosing and ensuring sustainability information is reinforced, including in the context of SMEs. The application of these results can anticipate regulatory requirements, strengthen internal controls and promote greater transparency and *accountability*, integrating accounting more effectively to sustainable management in smaller companies.

In the theoretical field, the study systematically organizes a still fragmented literature, creating a basis for future investigations on sustainability and governance in SMEs. As a limitation, the focus on indexed academic publications stands out, which can exclude undocumented practical experiences. It is recommended that future research adopt empirical approaches, such as case studies, *surveys* with managers, and analyses of the relationship between ESG maturity and financial performance, especially in specific sectoral and regional contexts.

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