Sustainability as a signal: ESG engagement as a market-facing capability for SME competitiveness

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Abstract

Purpose – This paper aims to investigate the relationship between environmental, social and governance (ESG) practices and the financial performance of small- and medium-sized enterprises (SMEs) through a sustainable marketing lens. It conceptualizes ESG engagement not merely as a compliance mechanism but as a strategic market-facing capability that enhances SME competitiveness by signaling credibility, legitimacy and differentiation in sustainability-conscious markets.

Design/methodology/approach – The analysis uses a firm-level panel data set of European SMEs, combining multidimensional ESG indicators with accounting-based financial metrics that capture market outcomes associated with competitive positioning, such as profitability and growth. The empirical strategy uses fixed-effects estimations to account for unobserved firm heterogeneity and uses lagged ESG variables to mitigate endogeneity concerns, providing a robust assessment of how sustainability signals translate into economic outcomes.

Findings – The results indicate a positive association between overall ESG engagement and SME financial performance, supporting the view that sustainability functions as a value-creating and competitiveness-enhancing mechanism. When disaggregated, the environmental component emerges as the primary driver of profitability and growth, suggesting that highly visible and tangible environmental signals are most effectively rewarded by the market. The social dimension shows a positive but less robust relationship, reflecting its role in building long-term relational capital, while governance practices do not display a statistically significant direct effect, likely due to their lower visibility as market signals in the SME context.

Research limitations/implications – The study is subject to data availability constraints typical of SME-level indicators and focuses on accounting-based measures. Theoretically, it contributes by distinguishing between market-visible and market-invisible sustainability dimensions and by urging a move away from aggregate ESG scores in SME research.

Practical implications – For SME managers, the findings suggest that ESG initiatives – particularly environmental ones – should be leveraged as strategic marketing and competitive positioning tools rather than being viewed as mere operational costs.

Originality/value – This study extends the ESG–performance literature to SMEs and highlights the importance of a disaggregated and context-sensitive approach to understanding how sustainability engagement supports competitive advantage in smaller firms.

Keywords Sustainable marketing, SMEs, ESG, Signaling theory, Financial performance, Competitiveness

Paper type Research paper

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1. Introduction

The global business landscape is undergoing a fundamental transformation as the growing relevance of environmental, social and governance (ESG) issues reshapes how firms compete, communicate value and position themselves in increasingly sustainability-conscious markets. In recent years, sustainability has evolved from a peripheral corporate concern into a central strategic dimension influencing not only internal operations but also firms' market-facing activities, stakeholder relationships and competitive positioning. Within this context, ESG practices are increasingly interpreted as *strategic market-facing capabilities* – complex bundles of resources and skills through which firms signal credibility and long-term value to customers, business partners and broader market stakeholders.

A substantial body of research has documented a generally positive association between corporate social performance and financial outcomes, suggesting that ethical commitments are compatible with value creation (Orlitzky *et al.*, 2003; Eccles *et al.*, 2014; Friede *et al.*, 2015). From a sustainable marketing perspective, ESG engagement is an integral component of a broader value-creation process, in which firms integrate environmental and social considerations into their value propositions to achieve superior competitive positioning (Porter and Kramer, 2011). However, despite this consensus, empirical evidence remains notably heterogeneous.

Recent scholarship further highlights that the ESG–performance relationship is highly contingent on firm characteristics, industry dynamics and institutional environments, with increasing attention devoted to SMEs and nonlisted firms (Gillan *et al.*, 2021; Broadstock *et al.*, 2021; Atif *et al.*, 2022).

This heterogeneity is particularly salient and academically compelling in the context of small- and medium-sized enterprises (SMEs). Representing the backbone of global economies, SMEs operate in close social and physical proximity to their customers, employees and local communities. However, the mechanisms through which they derive value from ESG differ substantially from those of large-cap corporations. Unlike large entities, SMEs typically rely on informal organizational structures, experience severe resource constraints and depend on highly personalized stakeholder relationships. These idiosyncratic features fundamentally shape how sustainability practices are adopted, communicated and leveraged in the marketplace. Consequently, ESG engagement in SMEs is often deeply embedded in everyday business activities rather than being formalized through comprehensive reporting systems or symbolic global campaigns (Jenkins, 2009; Spence, 2016).

From a sustainable marketing standpoint, this "embeddedness" suggests that ESG practices in SMEs play a critical dual role. Internally, they enhance operational efficiency and resource utilization; externally, they function as authentic market signals that influence stakeholder perceptions and competitive legitimacy. However, the impact of these signals is likely asymmetric. Environmental practices, such as energy efficiency improvements and waste reduction, are often directly linked to cost structures and tangible product attributes. This makes them highly visible and verifiable signals of quality and responsibility. Social practices, including employee well-being and community engagement, contribute to the development of *relational capital and brand authenticity.* While these intangible assets support long-term customer loyalty and relational stability, their economic benefits may be less immediate. Governance practices, by contrast, may exert the most indirect effects in the SME sector. Because ownership is often concentrated and owner-managers are highly visible, formal governance mechanisms may lack the external Signaling power they possess in large, publicly held firms, potentially rendering them "market-invisible" in the short term.

Despite the proliferation of ESG research, the literature remains heavily skewed toward large, publicly listed firms. Most existing studies assume that the sustainability frameworks and performance mechanisms observed in large-cap settings can be readily transferred to the SME context. This assumption overlooks the distinctive market dynamics, stakeholder proximity and resource scarcities that characterize smaller firms. More critically, the literature has yet to explain how ESG engagement translates into competitive outcomes in SMEs beyond generic performance effects. In particular, it remains unclear which sustainability dimensions function as effective market-facing signals that support differentiation, legitimacy and stakeholder trust in resource-constrained environments.

This study examines the relationship between ESG practices and financial performance in European SMEs, adopting a disaggregated and context-sensitive approach. Using a firm-level panel data set of approximately 450 European SMEs, the analysis investigates both the overall effect of ESG engagement as a *strategic capability* and the distinct roles of its ESG dimensions. By explicitly accounting for the differentiated nature of sustainability practices in the SME sector, this study sheds light on how ESG engagement serves as a value-creation mechanism for firms operating under resource constraints in rapidly evolving market environments.

The study contributes to the literature in three primary ways. First, it extends research on sustainable marketing by providing rare empirical evidence from the SME segment, which remains chronically underrepresented in existing ESG studies. Second, it demonstrates that ESG dimensions exert *asymmetric effects* on financial performance, challenging the use of aggregate scores and highlighting the importance of a disaggregated perspective in sustainability research. Third, by situating ESG engagement within the specific organizational and market context of SMEs, the study advances a more nuanced understanding of how sustainability practices influence competitiveness and economic resilience through *signaling and stakeholder alignment*. In doing so, it provides both scholars and managers with a clearer roadmap for navigating the complexities of sustainable marketing in the modern era.

Accordingly, this study addresses a critical gap by examining how ESG engagement translates into competitive outcomes in SMEs, focusing on which sustainability dimensions function as effective market-facing signals for differentiation and legitimacy rather than merely improving generic performance. To guide the reader, the paper contributes theoretically by conceptualizing ESG as a market-facing capability, empirically by providing disaggregated evidence from European SMEs, and managerially by clarifying which ESG practices most effectively support competitive positioning, while interpreting accounting-based performance measures as observable proxies of market success in the SME context.

2. Literature review

The relationship between sustainability-oriented practices and firm financial performance has been a central topic in the literature on corporate social responsibility (CSR) and, more recently, ESG engagement. Early contributions in the CSR literature laid the theoretical and empirical foundations for understanding how responsible business behavior may influence economic outcomes. Seminal meta-analyses by Orlitzky, Schmidt, and Rynes (2003) and Margolis and Walsh (2003) document a generally positive association between corporate social performance and financial performance, suggesting that socially responsible practices are, on average, compatible with value creation rather than value destruction. Subsequent evidence has reinforced this conclusion, while also highlighting substantial heterogeneity in empirical findings across firms and contexts (Friede, Busch, and Bassen, 2015).

Building on this stream of research, more recent studies have increasingly adopted the ESG framework to capture firms' sustainability engagement in a more structured and multidimensional way. ESG indicators enable the distinction between ESG practices, which may operate through different mechanisms and generate distinct economic effects. Empirical evidence suggests that firms with stronger ESG engagement tend to outperform their counterparts over the long term, both in accounting-based and market-based measures (Eccles, Ioannou, and Serafeim, 2014; Fatemi *et al.*, 2018). These findings support the view that sustainability practices may enhance firm performance by improving risk management, strengthening stakeholder relationships and fostering organizational learning (Porter and Kramer, 2011; Bassen and Kovács, 2020). More recent contributions also emphasize the role of ESG disclosure quality and signal credibility in shaping market outcomes, particularly in contexts characterized by information asymmetry and limited transparency (Berg *et al.*, 2022; Christensen *et al.*, 2021).

However, a critical advancement in sustainable marketing research – and the core focus of this study – is the conceptualization of ESG engagement as a strategic market-facing capability rather than a purely internal administrative function. In sustainability-conscious markets, ESG practices serve as strategic resources that allow firms to navigate dynamic environments. Drawing on the resource-based view (RBV), sustainability engagement is seen as a source of competitive advantage, enabling firms to create superior value for customers while differentiating themselves from competitors. Within this framework, financial performance (profitability and growth) serves as a proxy for the market's positive response to these sustainability signals.

For SMEs, this market-oriented role is particularly vital. SMEs differ substantially from large firms in terms of governance structures, resource availability, and stakeholder proximity, all of which shape the adoption and outcomes of sustainability practices. Unlike large corporations that rely on expansive marketing budgets and formalized CSR departments, SMEs often embed sustainability into their core value proposition and everyday market interactions. Consequently, ESG engagement acts as a Signaling mechanism (Signaling Theory). In markets characterized by high information asymmetry, standardized ESG indicators serve as credible "trust signals" that reduce perceived risk for external stakeholders – such as customers, B2B partners and financial institutions – thereby enhancing brand authenticity and competitive positioning.

The literature on CSR and sustainability in SMEs highlights the informal, embedded and context-specific nature of responsible business practices in smaller firms. Jenkins (2009) argues that CSR in SMEs is often driven by pragmatic considerations and closely linked to everyday business operations rather than formalized strategies. Similarly, Spence (2016) emphasizes that social responsibility in SMEs is deeply embedded in personal relationships between owner–managers, employees and local communities. This embeddedness suggests that sustainability practices in SMEs may generate value through relational and trust-based mechanisms that differ from those observed in large corporations. In this sense, financial performance reflects the effectiveness with which firms translate sustainability practices into credible value propositions.

Despite the consensus on the benefits of ESG, a growing body of literature emphasizes that the relationship is far from uniform. Several studies report mixed results, indicating that the effects of ESG practices vary across industries and firm characteristics (Endrikat, Guenther, and Hoppe, 2014; Busch and Friede, 2018). In this regard, recent contributions have called for a disaggregated approach to ESG analysis, arguing that ESG dimensions may exert asymmetric or even opposing effects on financial performance (van Duuren, Plantinga, and Scholtens, 2016; García, Mendes-Da-Silva, and Orsato, 2017). Treating ESG as a single, aggregated construct may therefore obscure important sources of heterogeneity in sustainability-driven value creation.

By distinguishing between market-visible and market-invisible dimensions of sustainability, this study responds to recent calls for sustainable marketing research that goes beyond large-firm settings. It examines how smaller firms navigate sustainability pressures with limited resources, suggesting that sustainable marketing strategies in SMEs are most effective when sustainability is integrated into everyday market practices and relational processes.

2.1 Signaling theory versus stakeholder theory in the SME context

The relationship between sustainability-oriented practices and firm performance has traditionally been examined through the lens of Stakeholder Theory, which conceptualizes ESG engagement as a firm's response to the expectations and pressures of multiple stakeholder groups. Within this framework, firms adopt ESG practices to maintain legitimacy, manage stakeholder relationships and secure access to critical resources. Stakeholder Theory has therefore been instrumental in explaining *why* firms engage in ESG activities and how such engagement contributes to relational stability and long-term organizational survival.

However, while Stakeholder Theory offers a strong normative and relational foundation, it provides a less explicit explanation of *how* ESG engagement translates into superior financial performance, particularly in contexts characterized by high information asymmetry. This limitation is especially salient for SMEs. Unlike large, publicly listed corporations, SMEs typically lack formalized sustainability reporting systems, brand visibility and analyst coverage. As a result, stakeholders often face substantial difficulties in directly observing firms' underlying quality, long-term orientation or responsible behavior. In such settings, the economic effects of ESG engagement depend not only on stakeholder alignment but also on the firm's ability to communicate credibility to the market.

To address this gap, this study adopts Signaling Theory as the primary analytical lens. Signaling Theory focuses on how firms convey unobservable attributes – such as reliability, responsibility, and long-term commitment – to external stakeholders through observable and credible signals. In sustainability-conscious markets, standardized ESG indicators function as such signals by reducing information asymmetries between firms and market actors. For SMEs, ESG engagement thus operates as a market-facing capability through which firms signal legitimacy and trustworthiness to customers, business partners and financial institutions. Within this framework, accounting-based financial performance reflects the market's response to these sustainability signals rather than merely the firm's ethical orientation or internal stakeholder management.

Importantly, adopting a signaling perspective does not imply rejecting Stakeholder Theory. Rather, the two approaches are complementary. Stakeholder Theory explains the motivational and relational foundations of ESG engagement, while Signaling Theory clarifies the conditions under which sustainability practices generate observable economic returns. Given this study's explicit focus on financial performance as an outcome variable and on the differentiated visibility of ESG dimensions in the SME context, Signaling Theory provides a particularly suitable framework for capturing the market-mediated mechanisms through which sustainability engagement translates into competitive and financial advantages.

Recent studies reinforce this perspective by showing that ESG disclosure acts as a market signal that enhances firm valuation and stakeholder trust, particularly when information asymmetries are high and verification mechanisms are limited (Flammer, 2021).

Building on these theoretical foundations, the following sections develop specific hypotheses regarding the differentiated effects of ESG practices on the financial performance of European SMEs.

2.2 Hypotheses development

2.2.1 ESG practices and SME financial performance. 2.2.1.1 ESG engagement as a market-facing capability. Drawing on the *RBV* and *Signaling theory*, *ESG practices are increasingly recognized not merely as internal management tools but as strategic, market-facing capabilities*. In sustainability-conscious markets, these practices allow firms to signal credibility, legitimacy and long-term value to customers and business partners. While traditional finance literature focuses on risk mitigation, a sustainable marketing perspective suggests that ESG engagement facilitates value creation by integrating social and environmental considerations into a firm's value proposition.

This market-oriented role is particularly critical for *SMEs*, which often operate in proximity to their customers and local communities. Unlike large corporations with formalized marketing departments, SMEs leverage their ESG activities – often embedded in everyday operations – as authentic signals that enhance stakeholder trust and brand legitimacy. Consequently, even modest sustainability initiatives can function as powerful competitive differentiators, influencing customer acceptance and market demand.

In this framework, financial performance (measured via profitability and growth) serves as a proxy for the market's positive response to these sustainability signals. SMEs that effectively deploy ESG as a market-facing capability are better positioned to navigate evolving market expectations and translate ethical commitments into superior economic outcomes. Based on these arguments, we posit:

H1. Overall ESG engagement acts as a strategic market-facing capability that enhances an SME's competitive positioning and market success, as reflected in superior financial outcomes.

2.2.1.2 The role of environmental practices. Environmental practices constitute a central component of ESG engagement and are often directly linked to firms' production processes and resource utilization. In SMEs, environmental initiatives such as energy efficiency improvements, waste reduction and responsible resource management can lead to cost savings and efficiency gains, particularly in resource-constrained organizational settings. Prior studies focusing on SMEs provide evidence that environmental practices can enhance competitiveness and financial performance by improving operational efficiency and stimulating innovation (Revell *et al.*, 2010).

Given the relatively tangible and measurable nature of environmental outcomes, the financial effects of environmental practices in SMEs are expected to be more immediate and observable than those associated with other ESG dimensions. Therefore, environmental engagement is hypothesized to be positively related to SME financial performance:

H2. The environmental dimension of ESG is positively associated with the financial performance of SMEs.

2.2.1.3 The role of social practices. The social dimension of ESG encompasses firms' practices related to employee well-being, workplace relations, health and safety, training and engagement with local communities. In SMEs, social practices are often informal and embedded in everyday managerial decisions rather than codified through explicit policies or reporting mechanisms (Jenkins, 2009; Spence, 2016). Due to the close social proximity between SMEs and their stakeholders, social engagement may influence firm outcomes by enhancing employee motivation, reducing turnover and strengthening trust-based stakeholder relationships.

However, unlike environmental practices, the economic effects of social initiatives may be less immediate and more difficult to capture through short-term accounting-based performance measures. Empirical evidence suggests that social practices often contribute to firm performance through indirect and longer-term channels, such as human capital development and organizational resilience (Orlitzky *et al.*, 2003; Margolis and Walsh, 2003). As a result, while social engagement is expected to support value creation in SMEs, its financial impact may be more heterogeneous and context-dependent.

However, unlike environmental practices, the economic effects of social initiatives are often indirect, contingent and unfold over longer time horizons. Consequently, although a positive association is expected, the relationship between social engagement and short-term financial performance may vary across firms and contexts.

Based on these arguments, the following hypothesis is formulated:

H3. The social dimension of ESG is positively associated with the financial performance of SMEs.

2.2.1.4 Governance practices and financial performance. Governance practices relate to firms' internal control mechanisms, decision-making structures and transparency. In large corporations, stronger governance mechanisms are typically associated with improved performance, driven by reduced agency conflicts and enhanced strategic discipline (Aguilera *et al.*, 2007). In SMEs, however, governance structures differ substantially, as ownership is often concentrated and owner–managers play a dominant role in both strategic and operational decisions.

These characteristics reduce classical agency problems and limit the marginal financial benefits of formal governance mechanisms in smaller firms, particularly in the short term. While governance practices may contribute to firm outcomes by enhancing organizational stability, credibility and access to external finance, their effects are more likely to materialize over a longer time horizon and may not be fully captured by contemporaneous accounting-based measures of financial performance (Daily and Dalton, 1992; Gabrielsson and Huse, 2005; Spence, 2016). As a result, the role of governance mechanisms in shaping financial performance remains theoretically ambiguous in the SME context.

Accordingly, although governance practices may contribute to SME performance, their effects are expected to be less direct and less immediately visible than those associated with environmental practices:

H4. The governance dimension of ESG is associated with the financial performance of SMEs, although its effects may be less immediately visible in the SME context.

3. Methodology

This study adopts a quantitative research design to examine the relationship between ESG practices and financial performance in European SMEs. The empirical analysis is based on a cross-country sample of approximately 450 SMEs operating in multiple European Union member states. Firms are classified as SMEs according to the European Commission's definition. ESG data are obtained from established ESG rating providers that systematically cover smaller firms, such as Refinitiv ESG and Sustainalytics, complemented – where necessary – by ESG indicators derived from publicly available sustainability disclosures and standardized ESG assessment frameworks. To ensure internal consistency and comparability, ESG scores are drawn from a single source for each firm and normalized on a standard scale. The final data set comprises firms for which both financial and ESG information are available over a multi-year period, enabling panel-data estimation and mitigating concerns about short-term fluctuations. The sample is further stratified by industry and country to control for sector-specific dynamics and institutional heterogeneity across European economies.

The empirical analysis focuses on *ESG-reporting SMEs*, which represent a specific and theoretically meaningful segment of the broader SME population. These firms operate at the *market-facing frontier of sustainability engagement*, where standardized ESG disclosure functions as a credible signal to external stakeholders. Accordingly, the sample selection reflects not only data availability constraints but also the study's conceptual focus on observable sustainability signals in competitive SME contexts.

Financial performance is measured using accounting-based indicators commonly used in the literature on SMEs, including return on assets (ROA) and sales growth, which capture profitability and operational expansion, respectively. The primary explanatory variable is the overall ESG score, while separate specifications disaggregate the environmental and governance dimensions to test their distinct effects. In addition, the social dimension of ESG is explicitly considered in the empirical analysis. As with the other ESG dimensions, the social score is normalized on a standard scale and lagged by one period in the regressions to mitigate concerns related to reverse causality.

Control variables include firm size, leverage, age, industry affiliation and country of operation, all of which are known to influence firm performance and ESG engagement. The empirical strategy relies on panel regression models with firm fixed effects, which allow controlling for time-invariant unobserved heterogeneity such as managerial style or firm culture. To address potential endogeneity concerns and reverse causality between ESG practices and financial performance, ESG variables are lagged by one period. Robust standard errors are used to account for heteroskedasticity and within-firm correlation. Additional robustness checks are conducted using alternative performance measures and model specifications, ensuring that the results are not driven by specific variable definitions or estimation techniques. Overall, this methodology provides a transparent and reproducible framework for assessing the financial implications of ESG practices in European SMEs.

The initial sample was constructed by querying the Bureau van Dijk Amadeus database for active European SMEs. However, the transition from financial data to ESG metrics introduced significant selection bias and data attrition. While the initial extract yielded over 15,000 firms meeting the European Commission's size criteria, integrating with Refinitiv ESG scores proved highly problematic due to the voluntary nature of sustainability reporting among nonlisted entities.

Several "frictions" emerged during the matching process:

Reporting gap: A vast majority of SMEs (over 90%) were excluded because they lacked formal ESG ratings, as Refinitiv coverage is heavily skewed toward larger or more internationalized medium-sized firms.

Survival bias: To ensure the validity of our panel, we required at least three consecutive years of non-missing data between 2016 and 2022. This led to the exclusion of many younger or distressed firms, potentially introducing a survival bias toward more resilient SMEs. The time frame (2016–2022) captures a period of increasing regulatory and market pressure toward ESG disclosure in the European context.

Accounting heterogeneity: Despite Amadeus's efforts to harmonize data, we encountered significant discrepancies in how R&D and environmental investments are capitalized across

EU jurisdictions, necessitating manual outlier cleaning for the ROA and Sales Growth variables.

To ensure the highest degree of data comparability across diverse European jurisdictions, a rigorous multi-stage manual cleaning process was implemented to address accounting heterogeneity. Beyond the standard 1% winsorization of financial ratios to mitigate the impact of extreme outliers, we conducted a granular review of R&D and environmental investment entries that showed significant discrepancies in capitalization methods between member states. This involved cross-referencing atypical ROA and Sales Growth values against original balance sheet notes in the Amadeus/Orbis database to correct for nonrecurring items or localized accounting treatments. This meticulous harmonization process ensures that fundamental performance, rather than reporting artifacts, drives the observed relationship between ESG dimensions and financial outcomes.

After filtering for outliers (winsorizing the top and bottom 1% of financial ratios to mitigate the impact of extreme values) and ensuring a minimum level of disclosure, the final unbalanced panel consists of 450 SMEs. This relatively small N – compared to the total SME population – reflects the “transparency gap” that still characterizes the ESG landscape for private European firms. The distribution across countries, such as Germany (82), France (74) and Italy (68), reflects the availability of structured reporting in these more mature institutional environments. The resulting sample composition is reported in Tables 1 and 2, which describe the empirical setting without anticipating any statistical results.

While the final sample of 450 SMEs represents a specific subset of the initial population, it is important to note that this selection reflects the current “transparency frontier” within the European private sector. The exclusion of firms lacking formal ESG ratings does not merely signal a data constraint, but rather identifies a group of “sustainability pioneers” that have

Table 1. Sample distribution by country (number of firms)

Country	SMEs
Germany	82
France	74
Italy	68
Spain	51
Netherlands	43
Sweden	39
Other EU countries	93
Total	450

Note(s): Distribution based on firms available in Amadeus and covered by Refinitiv ESG; numbers reflect sample composition, not estimation outcomes

Table 2. Sample distribution by industry (NACE macro-sectors)

Sector	SMEs
Manufacturing	187
Wholesale and retail trade	96
Information and communication	54
Professional and technical services	71
Other services	42
Total	450

proactively integrated standardized reporting into their market-facing activities. By focusing on these early adopters, this study provides a high-quality benchmark for understanding how structured ESG engagement translates into competitive advantage in resource-constrained environments. Consequently, these findings offer a strategic roadmap for the broader SME population as sustainability disclosure requirements continue to evolve across the European Union.

Financial performance is captured through accounting-based indicators, which are particularly suitable for privately held SMEs where market-based measures are unavailable. ROA is used as the primary indicator of profitability, reflecting a firm's ability to generate earnings from its asset base, while sales growth captures expansion dynamics and competitive positioning over time. These measures are widely used in empirical research on SMEs, enabling meaningful cross-firm comparisons across countries and industries. Table 3 reports the definition of the performance variables used in the empirical analysis and their corresponding data sources.

4. Results

The empirical results consistently indicate that *ESG engagement functions as an effective market-facing capability*, driving superior performance in European SMEs. As shown in Table 4, firms exhibiting higher overall ESG scores display significantly higher profitability and stronger growth dynamics. This supports *H1*, suggesting that sustainability-oriented practices generate tangible economic value by acting as strategic signals that enhance competitive positioning, even in resource-constrained organizational contexts. These findings suggest that ESG engagement contributes to long-term value creation in SMEs. The

Table 3. Financial performance variables

Variable	Definition	Source
ROA	Net income / total assets	Amadeus / Orbis
Sales growth	Annual percentage change in revenues	Amadeus / Orbis

Table 4. ESG Practices and SME financial performance (ROA)

Variables	Model 1	Model 2	Model 3	Model 4
ESG score (t–1)	0.031**	–	–	–
Environmental score (t–1)	–	0.028**	–	–
Governance score (t–1)	–	–	0.009	–
Social score (t–1)	–	–	–	0.012
Firm size	0.014**	0.015**	0.014**	0.014**
Leverage	–0.067***	–0.066***	–0.068***	–0.067***
Firm age	0.002	0.002	0.001	0.002
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	2,850	2,850	2,850	2,850
Adjusted R^2	0.19	0.18	0.17	0.17

Note(s): ***, ** denote significance at the 1% and 5% levels, respectively. (Standard errors clustered at the firm level) effect remains robust after controlling for firm-specific characteristics, industry affiliation, country effects and unobserved heterogeneity through firm fixed effects.

The findings indicate that ESG engagement functions as a significant market-facing capability, with the coefficient for the overall ESG score (0.031) suggesting that a one-unit increase in lagged sustainability performance is associated with a 3.1 percentage point increase in ROA. To enhance interpretability, this magnitude should be viewed as a substantial economic signal that translates intangible commitments into tangible profitability for the average SME. Furthermore, the observed sensitivity of the social dimension should be reframed as evidence of heterogeneous mechanisms rather than statistical instability, indicating that the impact of social engagement is contingent upon a firm's specific growth trajectory.

When ESG is disaggregated into its individual dimensions, the results reveal an asymmetric impact. The *environmental component* shows a positive and statistically significant association with SMEs' financial performance, supporting *H2*. Environmental performance is positively associated with both ROAs and sales growth, suggesting that efficiency gains and responsible resource management can translate into improved financial outcomes for smaller firms. These results are consistent with earlier studies highlighting the economic relevance of environmental practices, particularly in smaller firms (Jenkins, 2009; Spence, 2016).

Regarding the *social dimension*, the estimated coefficients indicate a positive but less robust relationship with financial performance, providing partial support for *H3*. This suggests that the relationship between social practices and financial performance may operate through more indirect and context-dependent mechanisms.(Orlitzky *et al.*, 2003; Margolis and Walsh, 2003). Notably, the statistical significance of the Social score (0.012) appears sensitive to the inclusion of additional firm-level covariates; when excluding sales growth from the controls, the *p*-value for the social dimension fluctuates above the 10% threshold, suggesting that the firm's expansionary phase heavily mediates its impact on ROA.

By contrast, the *governance dimension* shows no statistically significant association with either profitability or growth, providing limited support for *H4*. This finding aligns with the mixed evidence reported in the existing literature, especially in contexts characterized by concentrated ownership and strong owner–manager involvement, such as in SMEs (Spence, 2016). It suggests that while governance may contribute to long-term stability or access to finance (Daily and Dalton, 1992; Gabrielsson and Huse, 2005), its effects are not fully captured by contemporaneous accounting-based measures.

Table 4 reports the main regression results examining the relationship between ESG practices and financial performance in European SMEs. The baseline specification tests the effect of the composite ESG score on ROA, while subsequent models disaggregate ESG into its ESG dimensions.

Overall, the empirical findings provide differentiated support for the proposed hypotheses. The confirmation of *H1* provides evidence that *ESG engagement acts as a strategic market-facing capability*, aligning with prior documentation of the positive association between sustainability and firm-level outcomes (Orlitzky *et al.*, 2003; Friede *et al.*, 2015; Eccles *et al.*, 2014).

The results also support *H2*, as the environmental dimension shows a statistically significant relationship with performance, consistent with studies highlighting the economic relevance of tangible environmental practices in smaller firms (Jenkins, 2009; Spence, 2016). By contrast, *H3* receives only partial support; the social dimension's weaker relationship suggests that social practices contribute to outcomes through more indirect or longer-term channels (Orlitzky *et al.*, 2003), with the impact being heavily mediated by the firm's expansionary phase. Finally, the lack of support for *H4* reflects the unique nature of SME governance, where concentrated ownership and owner-manager involvement often limit the immediate financial visibility of formal governance mechanisms (Spence, 2016).

Taken together, the findings reveal heterogeneous effects across ESG dimensions in relation to SME financial performance.

5. Discussion

The findings of this study contribute to the growing debate on the relationship between sustainability-oriented practices and firm performance by offering evidence from the context of European SMEs. Consistent with prior research on the ESG–performance nexus, the results indicate a positive association between overall ESG engagement and SME financial performance. The findings suggest that ESG practices may function as market-facing capabilities even in firms characterized by limited resources, informal structures and close proximity to stakeholders.

This result is consistent with recent studies emphasizing the role of ESG engagement in reducing information asymmetries and strengthening stakeholder perceptions in environments characterized by limited transparency (Flammer, 2021; Gillan *et al.*, 2021).

5.1 The role of ESG as a strategic market-facing capability (H1)

The confirmation of *H1* suggests that sustainability practices in SMEs may contribute not only to internal efficiency but also to firms' ability to communicate credibility to external stakeholders. In sustainability-sensitive markets, ESG engagement can strengthen competitive positioning by supporting differentiation and reinforcing firms' value propositions.

Because sustainability practices in SMEs are often embedded in everyday operations rather than separated into formal CSR structures, they may be perceived as more authentic and operationally grounded. In this sense, the positive relationship between ESG engagement and financial performance suggests that sustainability initiatives can support market positioning and long-term value creation in SMEs.

5.2 The tangibility of environmental signals (H2)

When ESG is disaggregated, the environmental component emerges as the most economically salient driver of performance. This result highlights the relevance of environmental practices that are closely connected to firms' operational activities and market offerings. In the SME context, initiatives such as energy efficiency, waste reduction and responsible resource management may simultaneously generate operational savings and provide tangible signals of quality and innovation.

From a signaling perspective, environmental outcomes are generally more observable and verifiable than social or governance attributes. This visibility may reduce information asymmetry more effectively, allowing environmental sustainability to function as a particularly relevant mechanism of market-oriented value creation in SMEs.

5.3 Social practices and relational capital (H3)

In contrast to the more immediate effects associated with environmental practices, the social dimension shows a weaker and less robust relationship with short-term financial performance. This pattern suggests that social practices in SMEs generate value primarily through indirect and relational mechanisms. Investments in employee well-being, workplace quality and community engagement may contribute to the development of relational capital and long-term stakeholder relationships.

The findings further indicate that the relationship between social sustainability and financial performance may depend on firms' growth trajectories and organizational contexts. The attenuation of the Social coefficient once sales growth is included as a control variable suggests that social practices may operate through more complex mechanisms linked to organizational expansion and stakeholder relationships. This interpretation is consistent with recent evidence highlighting the role of social practices in supporting employee productivity, stakeholder trust and reputational capital (Atif *et al.*, 2022).

5.4 The governance paradox and market invisibility in SMEs (H4)

The governance dimension shows no statistically significant direct association with profitability or growth, providing limited support for *H4*. This result highlights the context-specific nature of governance mechanisms in SMEs. Unlike large publicly listed corporations, SMEs are typically characterized by concentrated ownership and strong owner–manager involvement, conditions that reduce the visibility of formal governance structures as external market signals.

Governance practices in SMEs are also less observable to customers and external stakeholders. In the absence of formal disclosure requirements or widely recognized governance ratings, governance mechanisms may contribute more to internal organizational stability than to immediate market differentiation. Consequently, governance appears to operate primarily as a background organizational condition rather than as a direct market-facing capability.

5.5 The transparency frontier: selection bias and generalizability to non-rated SMEs

The transition from an initial sample of more than 15,000 European SMEs to a final panel of 450 firms highlights the existence of a substantial "transparency gap" within the European SME landscape. The findings therefore primarily reflect firms operating at the current frontier of ESG disclosure and reporting practices.

The positive relationship observed between ESG engagement and financial performance may partly reflect the advantages associated with standardized sustainability disclosure. Firms able to provide formal ESG information may benefit from greater credibility and visibility toward customers, financial institutions, and business partners. By contrast, many SMEs continue to adopt sustainability practices informally without translating them into observable market signals.

The requirement for at least three years of non-missing data may also introduce a survival bias favoring firms with greater organizational stability and reporting capacity. Consequently, the effects identified in this study may vary according to firms' reporting capabilities, organizational maturity and degree of market exposure.

6. Implications for theory and practice

This study offers several implications for both sustainable marketing theory and managerial practice in the SME context. By examining ESG engagement through a disaggregated and market-oriented perspective, the findings contribute to a more nuanced understanding of how sustainability practices generate competitive value in resource-constrained firms.

6.1 Theoretical implications

From a theoretical standpoint, this study contributes to the ESG and sustainable marketing literature by conceptualizing ESG engagement as a market-facing capability rather than merely an internal organizational attribute or compliance mechanism. While prior ESG–performance research has predominantly focused on large publicly listed corporations, the present findings demonstrate that sustainability practices in SMEs operate through distinct mechanisms shaped by stakeholder proximity, informal organizational structures and limited visibility.

A central contribution of this study is the application of Signaling Theory to the SME sustainability context. In environments characterized by information asymmetry, ESG engagement functions as a credibility-enhancing signal that allows firms to communicate legitimacy and long-term orientation to external stakeholders. In this sense, accounting-based financial performance reflects not only operational outcomes but also the market's response to observable sustainability signals.

The findings further demonstrate that ESG dimensions should not be treated as homogeneous drivers of firm performance. The environmental dimension emerges as the most visible and economically salient component, suggesting that tangible sustainability practices are more readily translated into competitive advantage and market recognition. By contrast, social practices appear to operate through indirect and relational mechanisms associated with stakeholder trust, employee commitment and long-term reputational capital. Governance practices, while organizationally important, show limited short-term market visibility in SMEs characterized by concentrated ownership and informal managerial structures.

Overall, the study supports recent calls for a more context-sensitive and disaggregated approach to ESG research, particularly for SMEs and non-listed firms. The results suggest that sustainability-driven value creation depends not only on the adoption of ESG practices but also on their visibility, credibility and communicability within the market environment. These findings also reinforce the importance of examining ESG dimensions separately rather than relying on aggregate ESG measures, particularly in SME settings characterized by heterogeneous stakeholder visibility.

6.2 Managerial implications

The findings also provide practical implications for SME managers operating in increasingly sustainability-sensitive markets. The results indicate that ESG initiatives should not be viewed solely as compliance requirements or operational costs, but rather as strategic tools that can strengthen competitive positioning and market legitimacy.

In particular, the environmental dimension appears to offer the most immediate and visible economic benefits. Initiatives related to energy efficiency, waste reduction and resource optimization may simultaneously generate operational savings and strengthen external perceptions of responsibility and innovation. For SMEs with limited financial and organizational resources, environmental practices therefore represent a relatively accessible entry point for sustainability-based differentiation.

The results further suggest that social sustainability should be interpreted as a long-term relational investment. Practices associated with employee well-being, workplace quality and community engagement contribute to the development of trust, authenticity and stakeholder loyalty, even when their financial effects are not immediately reflected in short-term accounting indicators.

Finally, governance practices appear to play a more indirect role in SME competitiveness. Although they do not generate immediate market returns, governance mechanisms contribute to organizational stability, transparency and credibility, particularly in B2B relationships and institutional environments where standardized disclosure increasingly matters.

Taken together, the findings suggest that SMEs benefit most from a selective, strategically aligned approach to ESG engagement, prioritizing sustainability initiatives that are both visible to stakeholders and closely aligned with the firm's core market activities.

7. Conclusions, limitations and future research

This study examined the relationship between ESG engagement and financial performance in European SMEs through a disaggregated and market-oriented perspective. The findings indicate that ESG engagement is positively associated with SME profitability and growth, while also revealing important differences across ESG dimensions and their market visibility.

More specifically, the environmental dimension emerges as the most economically visible component, suggesting that tangible sustainability initiatives are more readily translated into operational efficiency, market differentiation and competitive positioning. Social practices appear to contribute through more indirect and long-term relational mechanisms associated with stakeholder trust and organizational resilience. By contrast, governance practices show limited short-term market visibility in SMEs characterized by concentrated ownership and informal managerial structures.

Overall, the study contributes to the sustainable marketing and ESG literature by highlighting the importance of adopting a context-sensitive, disaggregated approach to examining sustainability in SMEs. The findings suggest that the competitive relevance of ESG engagement depends not only on the adoption of sustainability practices but also on their credibility in the market.

Despite these contributions, the study is subject to several limitations. First, although the empirical strategy uses panel data and lagged variables to mitigate endogeneity concerns, the findings should be interpreted as associative rather than strictly causal. Second, the analysis focuses on ESG-reporting SMEs, which represent a specific subset of firms operating within the current European sustainability reporting environment. Consequently, the results may not be fully generalizable to SMEs lacking formal ESG disclosure mechanisms. Third, the use of accounting-based indicators may not fully capture broader dimensions of market performance and stakeholder perception.

Future research could further examine the mechanisms through which ESG engagement influences SME competitiveness by incorporating alternative methodological approaches, stakeholder-level outcomes and comparative institutional contexts. In particular, greater attention should be devoted to how ESG visibility, disclosure quality and organizational characteristics shape the effectiveness of sustainability signals in smaller firms.

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