

THE DETERMINANTS OF ESG DATA REQUIREMENTS FOR SMEs IN THE EUROPEAN UNION: INSIGHTS AND CHALLENGES FROM HUNGARY

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Environmental, Social, and Governance (ESG) reporting obligations formally target large corporations, yet small and medium-sized enterprises (SMEs) increasingly encounter indirect but consequential ESG information requirements. This study examines how EU non-financial governance regulation has evolved from voluntary disclosure practices into a structured policy architecture that progressively embeds SMEs through spillover mechanisms. The analysis is based on a structured review of key EU legislative instruments—including the transition from the Non-Financial Reporting Directive (NFRD) to the Corporate Sustainability Reporting Directive (CSRD), the 2025 Omnibus simplification package, and the Voluntary Sustainability Reporting Standard for SMEs (VSME)—interpreted in light of relevant academic scholarship. The findings show that SME exposure is systemically driven through value chain transmission, financial governance dynamics, and policy recalibration. In Hungary, limited reporting capacity and interpretative uncertainty intensify these challenges. The study argues that while the VSME approach may enhance proportionality, effective implementation depends on policy coherence and strengthened organizational capabilities.

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1 Introduction

European sustainability regulation is often described as a policy structure targeting large, publicly accountable corporations. However, beneath this formal arrangement, a quieter yet systemically significant transformation is unfolding: small- and medium-sized enterprises (SMEs) are increasingly becoming part of the EU's sustainability data system without being its primary regulatory targets (OECD, 2025). While binding ESG reporting obligations formally apply to large entities, the operational expansion of sustainability disclosure has progressively extended into supply chains, financial intermediation, and business-to-business relations (Allgeier & Feldmann, 2023). As a result, SMEs increasingly face ESG-related data requirements that are indirect in legal design but direct in practical consequence (Di Tullio et al., 2025).

This development signals a fundamental reconfiguration of the European reporting landscape. ESG disclosure is no longer confined to entities explicitly named in legislative texts; instead, it operates as a distributed data ecosystem in which information is cascaded, requested, verified, and consolidated across organizational boundaries. Within this environment, SMEs function as upstream data providers, risk carriers, and transparency nodes. However, unlike large corporations, most SMEs lack established non-financial reporting infrastructures, dedicated compliance units, or formalized governance systems (Győri et al., 2025). The growing demand for ESG-related information thus leads not only to administrative tasks but also to fundamental changes in organizational logic, documentation practices, and strategic direction (Khamisu & Paluri, 2024).

The policy evolution underpinning this shift is multifaceted. The transition from the Non-Financial Reporting Directive (NFRD) to the Corporate Sustainability Reporting Directive (CSRD) marked a substantial deepening of disclosure requirements and standardization efforts (Donner et al., 2025). More recently, the European Commission's 2025 Omnibus legislative package has sought to recalibrate the balance between reporting ambition and administrative feasibility. At the same time, the introduction of the Voluntary Sustainability Reporting Standard for SMEs (VSME) reflects an institutional recognition that proportionality and harmonization are essential for smaller enterprises navigating an increasingly complex disclosure environment. Together, these developments illustrate that SME participation in

sustainability reporting is not accidental but driven by underlying policy dynamics (European Commission, 2025b).

Despite this transformation, the determinants shaping ESG data requirements for SMEs remain insufficiently conceptualized. Existing scholarship has predominantly focused on large-firm disclosure practices, performance implications of ESG transparency, or voluntary sustainability engagement among SMEs (Steidle et al., 2025; Momtaz et al., 2025). Far less attention has been devoted to the mechanisms through which policy spillovers, market pressures, and governance expectations converge to generate ESG-related information requirements directed at enterprises formally outside the reporting perimeter. In particular, there is limited analytical clarity regarding how these pressures evolve, interact, and materialize at the SME level.

This gap is not only empirical but also theoretical. Without a clear understanding of what drives SME-focused ESG data expectations, policy discussions risk conflating legal duties with practical exposure, and debates about compliance may overlook the organizational capacity limits that shape implementation. The ongoing shift from predominantly quantitative disclosure metrics toward qualitative, governance-oriented expectations—such as due diligence processes, policy formalization, and risk management practices—has not been sufficiently examined from an SME perspective. This qualitative deepening of reporting logic may represent a more consequential transformation than the expansion of metric volume itself.

Against this background, this study pursues four guiding questions:

1. How have ESG data requirements affecting SMEs evolved within the EU's regulatory and policy framework?
2. What structural determinants generate and shape ESG-related information demands directed at SMEs?
3. In what ways does the shift toward qualitative governance depth redefine SME inclusion into sustainability reporting systems?
4. How do these dynamics manifest in the Hungarian SME context?

To address these questions, the paper undertakes an analysis of key EU legislative instruments and policy documents, complemented by a critical engagement with the relevant academic literature. Rather than positioning SMEs as peripheral or passive recipients of sustainability expectations, the study conceptualizes them as structurally embedded actors within a multi-level sustainability data governance regime. Through the interpretative integration of regulatory developments and scholarly insights, the analysis constructs a determinant-based framework that distinguishes regulatory spillovers, market-based transmission mechanisms, and organizational capacity constraints shaping ESG data requirements.

Theoretically, this paper contributes in three principal ways. First, it introduces the concept of indirect integration to explain how SMEs become embedded in sustainability reporting architectures despite limited direct regulatory targeting. Second, it advances reporting scholarship by identifying a qualitative shift from metric expansion toward governance depth, highlighting its disproportionate effects on resource-constrained enterprises. Third, it bridges regulatory design and organizational capacity literature by demonstrating how data-generation capabilities, interpretative clarity, and institutional context mediate compliance expectations.

The findings reveal that ESG data requirements affecting SMEs are not random by-products of regulatory expansion but are generated through the interaction of three mutually reinforcing determinant groups: regulatory spillovers, market-based transmission mechanisms, and internal organizational capacity constraints. The analysis demonstrates that SMEs are increasingly embedded in the EU sustainability reporting regime through cascading value-chain expectations and financial governance mechanisms, even in the absence of direct legal obligations. The study shows that the transformation of reporting logic intensifies the structural tension between regulatory ambition and the administrative feasibility at the SME level.

The Hungarian case illustrates how this tension materializes in practice, highlighting capacity gaps, interpretative divergences, and uneven preparedness across firms. Together, these findings suggest that the evolving European sustainability architecture is reshaping the role of SMEs from peripheral actors to structurally integrated participants in a distributed data governance system.

2 Methodology

2.1 Research Design and Sources

This study adopts a qualitative, document-based research design. The empirical foundation of the analysis consists of key European Union legislative instruments and policy documents shaping sustainability reporting, including the Non-Financial Reporting Directive (NFRD), the Corporate Sustainability Reporting Directive (CSRD), the European Sustainability Reporting Standards (ESRS), the 2025 Omnibus simplification package, and the Voluntary Sustainability Reporting Standard for SMEs (VSME). These regulatory materials were examined to trace the evolution of sustainability disclosure and to identify mechanisms through which reporting expectations extend beyond formally regulated entities.

In addition to regulatory sources, relevant peer-reviewed academic literature was consulted to provide theoretical and interpretative context. Scholarly contributions were selected based on their relevance to three core themes:

- (i) the regulatory transformation of ESG reporting,
- (ii) spillover and transmission mechanisms across value chains and financial systems, and
- (iii) sustainability-related challenges faced by SMEs.

The documents were selected based on their relevance to EU sustainability reporting, with particular attention to regulatory scope, value-chain dynamics, proportionality, and SME-related effects. Emphasis was placed on recent legislative and policy developments that shape the evolution of ESG data requirements in the European context. The selection process sought to ensure both regulatory coverage and conceptual relevance.

To enhance analytical rigor, the materials were examined using a structured interpretative approach. The analysis focused on identifying recurring patterns in the expansion of reporting obligations beyond formally regulated entities, as well as on how such expectations are translated into practice across organizational boundaries.

2.2 Analytical Procedure

The collected regulatory and academic materials were examined using a thematic interpretative approach. The process unfolded in three steps. First, regulatory documents were reviewed to identify provisions related to scope expansion, value-chain participation, proportionality, and governance embedding. Second, academic literature was used to interpret these provisions and situate them within broader sustainability governance debates. Third, an iterative comparison between legal architecture and scholarly interpretation enabled the identification of recurring structural patterns.

This analytical process resulted in the development of three determinant categories:

- regulatory spillovers,
- market-based transmission mechanisms, and
- organizational capacity constraints.

These categories form the conceptual framework guiding the analysis. The Hungarian case is then used to illustrate how these determinants interact in practice.

3 Evolution of ESG Data Requirements in the EU

3.1 From Voluntary Disclosure to Regulatory Architecture

The modern European sustainability reporting system did not appear suddenly; instead, it evolved from a predominantly voluntary disclosure environment into a more organized regulatory system (Breijer et al., 2024). Early corporate sustainability reporting practices were largely driven by reputational considerations, stakeholder engagement, and voluntary guidelines such as the Global Reporting Initiative (GRI). Disclosure during this period was characterized by flexibility, narrative orientation, and considerable heterogeneity in scope and quality (Global Reporting Initiative, 2021; Nobes, 2026).

This landscape began to shift with the institutionalization of non-financial reporting requirements at the EU level. The adoption of the Non-Financial Reporting Directive (NFRD) marked the first significant attempt to standardize sustainability disclosure among large public-interest entities. Although the NFRD maintained substantial discretion in reporting formats and indicators, it introduced the principle that non-financial transparency constitutes a matter of public oversight rather than a purely voluntary corporate initiative (European Parliament & Council, 2014; Ottenstein et al., 2022).

The replacement of the NFRD with the CSRD represents a qualitative shift in this approach. The CSRD significantly broadens the scope, detail, and assurance standards of sustainability reporting (Mangiuc & Kagitic, 2025). It situates reporting obligations within a standardized reporting system supported by the European Sustainability Reporting Standards (ESRS), thereby reinforcing comparability, auditability, and alignment with governance processes (European Commission, 2023).

This regulatory deepening does not merely increase the volume of disclosed information but also positions sustainability reporting within core governance processes, including risk management, strategy, and due diligence (Panfilo et al., 2024). Sustainability information thus becomes an integral component of corporate oversight rather than a peripheral narrative supplement to financial reporting.

3.2 The Expansion of Data Demands Across Value Chains

While binding reporting obligations under the CSRD primarily apply to large undertakings, the directive's operational logic extends beyond formally regulated entities. The requirement for large firms to disclose information on value chain risks, environmental impacts, and social due diligence generates a cascading need for sustainability-related information from upstream and downstream partners (European Parliament & Council, 2022).

Large corporations subject to mandatory reporting increasingly rely on suppliers, subcontractors, and service providers to deliver granular inputs necessary to fulfil their own disclosure and compliance obligations. As a result, small and medium-

sized enterprises are drawn into reporting processes through contractual, commercial, and relational mechanisms (Ligorio et al., 2025).

Beyond supply chain transmission, financial intermediation further reinforces these dynamics. Regulations on sustainable finance, taxonomy alignment requirements, and ESG-based risk assessment practices influence lending decisions and investment flows (Crona et al., 2025). Financial institutions, in turn, request sustainability-related inputs from corporate clients, including SMEs, to meet prudential and disclosure standards. ESG information thus circulates through both production networks and financial channels, strengthening indirect linkage mechanisms (OECD, 2023; Suhatmi et al., 2024).

The expansion of information needs across value chains reflects a system-level transformation in which sustainability reporting operates as a networked governance arrangement extending beyond formally regulated entities (Hummel & Jobst, 2024). Within this system, SMEs become positioned as key providers of information within reporting processes. This transformation lays the groundwork for understanding how ESG-related expectations materialize even in the absence of direct legal mandates.

3.3 Recalibration and Proportionality: Omnibus and VSME

As sustainability reporting requirements expanded in scope and complexity, concerns emerged regarding administrative burden, proportionality, and implementation feasibility, particularly for smaller enterprises indirectly affected by cascading information requests. In response, the European Commission introduced the 2025 Omnibus legislative package, aiming to streamline sustainability-related legislation and recalibrate the balance between regulatory ambition and practical feasibility (European Commission, 2025b).

The Omnibus initiative recognizes that, while harmonization and comparability remain key objectives of EU sustainability governance, reporting arrangements must be proportionate to an organization's capacity. Simplification efforts and clarifications are intended to reduce excessive compliance burdens without compromising transparency objectives.

Parallel to the Omnibus reforms, the introduction of the Voluntary Sustainability Reporting Standard for SMEs (VSME) represents a targeted attempt to address the specific needs of smaller enterprises (European Commission, 2025a). The VSME approach offers a simplified and proportionate reporting structure designed to harmonize information requests and reduce duplication across value chains (EFRAG, 2024). By providing a common reference point, it seeks to alleviate the interpretative uncertainty and administrative fragmentation that SMEs encounter when responding to diverse ESG-related expectations.

Taken together, the Omnibus package and the VSME initiative signal a shift from regulatory expansion toward proportional adjustment. However, even as simplification efforts progress, the systemic involvement of SMEs in the sustainability information architecture remains a defining feature of the European model (Hummel & Jobst, 2024). Understanding this development requires a systematic examination of the determinants shaping ESG-related information requirements at the SME level, an analytical task undertaken in the following section.

3.4 Synthesis: The Structural Evolution of ESG Data Governance in the EU

The evolution of ESG-related information requirements in the European Union reflects more than a gradual increase in disclosure obligations. It represents a system-level transition from voluntary corporate communication toward a distributed information governance arrangement characterized by regulatory standardization, value chain transmission, and proportional recalibration (Breijer et al., 2024).

Initially, sustainability disclosure functioned primarily as a voluntary and reputational practice. With the introduction of binding non-financial reporting obligations, regulatory institutionalization reshaped disclosure into a formal compliance domain. The subsequent adoption of the CSRD extended this logic by situating sustainability reporting within standardized governance arrangements and explicitly incorporating value chain considerations. As reporting expectations cascaded across organizational boundaries, SMEs became indirectly incorporated into the sustainability information system. More recently, simplification initiatives such as the 2025 Omnibus package and the Voluntary Sustainability Reporting Standard for SMEs (VSME) have signaled an effort to balance regulatory ambition with administrative feasibility.

Table 1 summarizes these developmental phases and their implications for SMEs.

Table 1: Structural Phases of ESG Data Governance in the EU

Phase	Core Shift	Implication for SMEs
Voluntary Disclosure	Narrative, flexible sustainability communication	Limited and optional engagement
Regulatory Institutionalization	Legal obligation for large firms (NFRD → CSRD)	Indirect exposure through regulated partners
Value Chain Integration	Cascading ESG data demands across networks	SMEs become upstream data providers
Recalibration & Proportionality	Simplification efforts (Omnibus, VSME)	Recognition of capacity constraints and the need for harmonization

Source: Author’s own elaboration based on NFRD (Directive 2014/95/EU), CSRD (Directive (EU) 2022/2464), the European Sustainability Reporting Standards (ESRS), and the European Commission’s 2025 Omnibus legislative package and VSME framework.

As illustrated in Table 1, SME exposure to ESG data requirements is not primarily the result of direct legal targeting but of structural spillovers embedded within the evolving EU sustainability architecture. This evolutionary perspective highlights the need to examine the mechanisms that generate and shape ESG-related information demands at the SME level. The following section develops a framework based on determinants to systematically analyze these mechanisms.

4 Conceptual Framework: Determinants of ESG Data Requirements for SMEs

4.1 Regulatory Determinants

Regulatory determinants originate in formal legal provisions and governance arrangements that indirectly extend transparency expectations beyond entities explicitly subject to mandatory reporting (Gardner et al., 2019). The transition from the Non-Financial Reporting Directive (NFRD) to the Corporate Sustainability Reporting Directive (CSRD) illustrates how legal architecture reshapes informational dependencies within the European economy. Although binding obligations primarily apply to large undertakings, value chain reporting requirements, due diligence provisions, and standardized disclosure formats generate data needs upstream and downstream.

This mechanism operates through structural interdependence. Corporations subject to detailed sustainability requirements must obtain reliable, verifiable information from suppliers, subcontractors, and service providers to fulfil their obligations. Smaller enterprises, therefore, become incorporated into documentation and verification processes without being directly regulated. The extension of reporting logic is thus embedded in the design of the regulatory framework itself.

A further regulatory dimension concerns proportionality and recalibration. Simplification initiatives, including the 2025 Omnibus package and the Voluntary Sustainability Reporting Standard for SMEs (VSME), acknowledge capacity constraints among smaller firms. Nevertheless, these measures do not reverse integration; instead, they refine its implementation. Regulatory determinants, therefore, function through scope expansion, harmonization, and rule-based standardization, shaping the informational environment in which SMEs operate.

4.2 Market-Based Determinants

Disclosure-related pressures are also transmitted through market relationships. Large corporations increasingly incorporate environmental and social criteria into procurement policies, supplier screening, and contractual requirements (Diebel et al., 2024; Vandenburg & Moore, 2022). Through these mechanisms, sustainability expectations diffuse across production networks and become embedded in commercial exchange. Relational dependence and reputational considerations reinforce such dynamics.

Financial intermediation represents an additional transmission channel. Sustainable finance regulation, taxonomy alignment, and ESG-oriented credit risk assessment influence lending decisions and capital allocation (Li et al., 2025). Financial institutions require structured non-financial information to evaluate exposure and long-term risk, which in turn leads to additional information requests directed at corporate clients, including SMEs. Access to finance thus becomes linked to the capacity to provide credible sustainability-related data.

Market-based determinants differ from statutory mechanisms in that they operate through economic incentives and relational dependence rather than direct legal enforcement. However, their practical impact can be substantial, particularly in sectors characterized by concentrated buyer power or capital intensity.

4.3 Organisational Determinants

Internal capabilities mediate the effects of external expectations. Organizational determinants refer to a firm's capacity to generate, structure, and interpret non-financial information (Geerts et al, 2021). Managerial expertise, governance formalization, digital infrastructure, and prior exposure to certification regimes influence how sustainability-related demands are absorbed and operationalized (Li & Zhang, 2024).

Many smaller enterprises operate with lean administrative structures and limited specialization. Data collection may be fragmented, responsibilities may be diffuse, and documentation practices may be informal. Under such conditions, even modest reporting requests can generate disproportionate strain. Conversely, firms integrated into international supply networks or accustomed to compliance-driven environments may possess routines that facilitate adaptation (Wojtaszek et al., 2025).

Interpretative capability constitutes an additional internal dimension. Regulatory texts and sustainability standards must be translated into operational processes. Divergent understandings of materiality, proportionality, and relevance can produce heterogeneous implementation outcomes. Consequently, integration into the broader sustainability governance system is shaped not only by external pressures but also by organizational readiness and absorptive capacity.

5 Translating EU-Level Governance to SME Practice: The Hungarian Case

5.1 Structural Characteristics of Hungarian SMEs

Hungary provides a revealing context for examining how EU-level sustainability governance materializes within an SME-dominated economy, where micro- and small-sized enterprises account for approximately 99% of all firms and employ

around two-thirds of the workforce (OECD, 2025; European Commission, 2024a). These firms typically operate with lean organizational structures, centralized decision-making, and limited administrative specialization. As a result, formalized internal systems are often less developed, particularly beyond statutory financial accounting. This is especially evident among micro-enterprises that often lack dedicated administrative or sustainability-related functions (Lámfalusi et al., 2024). In addition, Hungarian SMEs lag behind the EU average in terms of digitalization, particularly in the adoption of advanced data management systems, which constrains their ability to respond to structured ESG-related information requests (European Commission, 2024a).

These structural features directly affect the organizational determinants identified in the conceptual framework. Data generation processes frequently rely on ad hoc documentation practices rather than integrated information systems. Responsibility for non-financial matters is rarely institutionalized in dedicated roles, and sustainability considerations may remain embedded in informal managerial routines rather than codified procedures. As a result, the capacity to respond to structured, comparable, and audit-ready information requests varies significantly across firms.

In addition to administrative capacity constraints, interpretative divergence plays a crucial role. Regulatory terminology related to double materiality, due diligence, and governance integration must be translated into operational practice. For many Hungarian SMEs, such concepts are unfamiliar or perceived primarily as externally imposed compliance expectations. This interpretative gap can lead to inconsistent implementation, over-reporting in some cases, and minimal engagement in others (European Commission, 2024b).

Consequently, the embedding of Hungarian SMEs into the EU sustainability architecture is mediated by limited institutionalization, uneven digitalization, and varied levels of strategic assimilation of sustainability considerations. These characteristics amplify the practical implications of externally generated information demands.

5.2 Value Chain Embeddedness and ESG

While internal capacity shapes responsiveness, external positioning determines exposure. The Hungarian economy is deeply embedded in European production networks, particularly in manufacturing-intensive sectors such as automotive, electronics, and industrial services. A substantial share of domestic SMEs operate as suppliers to multinational corporations, particularly in export-oriented manufacturing sectors that account for a significant proportion of Hungary's industrial output (Éltető, 2025; OECD, 2023).

This transnational embeddedness activates the regulatory and market-based determinants outlined earlier. Large corporations subject to CSRD obligations increasingly require detailed environmental and social information from upstream partners to ensure compliance with value-chain disclosure and due diligence requirements. In parallel, ESG-oriented procurement standards and supplier evaluation systems further formalize sustainability expectations within commercial relationships.

Financial intermediation reinforces these dynamics. Hungarian SMEs seeking credit from domestic or EU-affiliated banks increasingly encounter ESG-related information requests as part of risk assessment processes, reflecting the growing integration of sustainability criteria into financial supervision and lending practices (Magyar Nemzeti Bank, 2024). Although not directly bound by reporting directives, firms may be required to provide structured data on emissions, energy use, governance practices, or supply chain risks to secure financing or maintain long-term contractual relationships.

The Hungarian case thus illustrates a dual condition: structural vulnerability combined with deep incorporation into European economic networks (Lux, 2025). On the one hand, many firms possess limited formalized reporting capacity. On the other hand, their participation in cross-border value chains exposes them to cascading informational expectations (Lámfalust et al., 2024). This combination renders Hungary an analytically relevant context of how EU-level sustainability governance diffuses beyond its formal regulatory perimeter and becomes operational at the SME level.

6 Discussion of the Results

The findings confirm that the growing exposure of small and medium-sized enterprises to sustainability-related information demands within the European Union is not an accidental result of regulatory expansion but the outcome of a deeply embedded governance logic. The shift from voluntary disclosure practices to a unified, assurance-backed reporting system has made sustainability transparency a fundamental part of European economic coordination. While binding legal obligations mainly target large corporations, the structure of the regulatory framework creates informational dependencies that extend far beyond the officially specified reporting scope. The move from the NFRD to the CSRD signifies more than just an increase in disclosure requirements; it represents a significant shift in how sustainability reporting functions as a governance tool. By incorporating value chain accountability, due diligence expectations, and standardized reporting formats into legal requirements, the regulatory setup establishes structural links between regulated companies and their business partners. These links produce continuous information flows that pull SMEs into documentation, verification, and risk management activities, even when the law does not directly target them. In this way, integration happens through the design of the framework rather than through explicit designation.

The determinant-based framework developed in this study clarifies how these dynamics operate. Regulatory spillovers create the initial conditions by expanding the informational scope of large-firm disclosure. Market-based transmission mechanisms—most notably supply chain governance and financial intermediation—translate these legal expectations into operational requests. Contractual requirements, procurement standards, and ESG-oriented credit assessments function as conduits through which sustainability-related demands are relayed to smaller enterprises. Organizational capacity constraints then mediate how such pressures are experienced and managed. The interaction of these three determinant groups explains why SMEs encounter escalating expectations despite remaining outside the core regulatory perimeter.

A central contribution of the analysis lies in identifying the qualitative deepening of reporting logic as a pivotal transformation. Early disclosure practices focused primarily on metric-based transparency. In contrast, the current framework

increasingly emphasizes governance processes, risk oversight structures, policy formalization, and due diligence systems. For smaller enterprises, this shift has disproportionate implications. While quantitative indicators may require technical measurement, governance-oriented expectations demand procedural formalization and institutional restructuring. The burden, therefore, extends beyond data collection toward organizational redesign. This transformation intensifies the structural tension between regulatory ambition and administrative feasibility that has motivated proportionality initiatives such as the Omnibus package and the VSME framework.

The Hungarian case illustrates how these structural dynamics materialize within an SME-dominated economic environment. Hungary's deep integration into European production networks activates both regulatory and market-based determinants. Multinational corporations operating under CSRD obligations transmit sustainability-related requirements upstream, while financial institutions increasingly incorporate ESG risk considerations into lending practices. At the same time, many Hungarian SMEs operate with limited formalization, fragmented data systems, and uneven clarity in interpreting regulatory expectations. The result indicates a misalignment between exposure and organizational readiness. Rather than being gradual and internally driven, integration appears largely externally driven, with external requirements shaping it rather than internally initiated strategies.

This configuration supports conceptualizing SMEs as structurally embedded actors within a distributed sustainability data regime. Their role is neither peripheral nor purely voluntary; instead, they serve as upstream information providers and risk-transmission nodes within an interconnected reporting structure. However, the depth of inclusion varies according to organizational readiness. Where internal systems are underdeveloped, disclosure-related pressures generate strain and uncertainty. Where routines and governance structures are more advanced, adaptation is comparatively smoother. The Hungarian example thus demonstrates how macro-level regulatory transformation interacts with meso-level market dynamics and micro-level organizational capacity.

Figure 1 synthesizes these findings by depicting the interaction between regulatory architecture, market transmission channels, and internal capability as a dynamic system. The model highlights that informational expectations originate at the

regulatory level, are operationalized through commercial and financial relationships, and are ultimately absorbed—or resisted—within firm-level structures. Effective integration occurs when organizational capacity aligns with external pressures; structural tension emerges when exposure exceeds readiness.

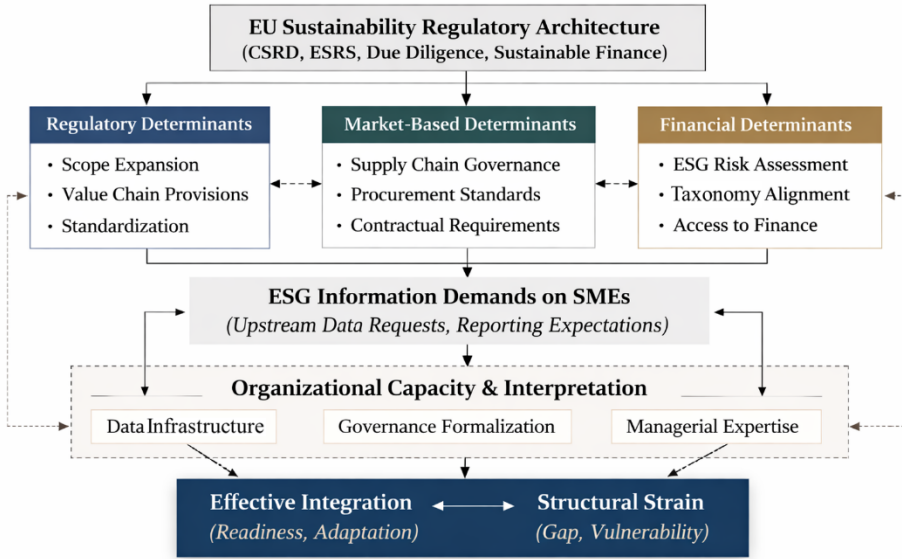


Figure 1: Determinant Interaction Model of SME Incorporation into EU Sustainability Governance

Source: Author’s own elaboration

Taken together, the results refine existing understandings of the diffusion of sustainability governance. Rather than a linear extension of compliance obligations, the European model operates through layered interdependencies that redistribute informational responsibility across economic networks. SMEs are incorporated not by explicit regulatory targeting but through relational and systemic mechanisms. This indirect structural integration reshapes their strategic environment, altering documentation practices, governance arrangements, and interactions with business partners and financiers. The implications extend beyond administrative burden, touching on competitiveness, resource allocation, and long-term organizational transformation.

7 Conclusions and Further Research Steps

7.1 Conclusions

This study examined how ESG-related information requirements affecting small and medium-sized enterprises have evolved within the European Union and identified the key determinants shaping this process. The findings indicate that the increasing exposure of SMEs to sustainability reporting expectations is not primarily driven by direct regulatory obligations, but rather by the underlying design of the EU sustainability governance system. Through regulatory spillovers, value chain transmission mechanisms, and financial intermediation processes, SMEs become embedded in a distributed data governance environment despite remaining largely outside the formal scope of mandatory reporting.

The Hungarian case illustrates how these dynamics materialize within an SME-dominated economy characterized by limited formalization and uneven preparedness. The combination of strong value chain integration and constrained internal capacities creates a persistent tension between regulatory ambition and administrative feasibility. Although recent initiatives such as the Omnibus package and the Voluntary Sustainability Reporting Standard for SMEs (VSME) aim to improve proportionality, they do not fundamentally alter the embedded position of SMEs within the evolving sustainability architecture.

7.2 Theoretical Contributions and Policy Implications

From a theoretical perspective, this study contributes to the literature in three main ways. First, it introduces the concept of indirect system-level integration to explain how SMEs become incorporated into sustainability reporting systems without explicit regulatory targeting. Second, it identifies a qualitative shift in reporting logic from metric-based disclosure toward governance-oriented practices, including due diligence, risk management, and strategic alignment. Third, it demonstrates that the effects of regulatory expansion are mediated by organizational capacity, interpretative clarity, and institutional context, thereby linking regulatory design with firm-level implementation processes.

From a policy perspective, the findings underline the importance of proportionality in sustainability reporting arrangements. While instruments such as the VSME represent important steps toward harmonizing expectations and reducing administrative burden, effective implementation requires more than regulatory adjustment. Capacity-building initiatives, clearer guidance, and institutional support mechanisms are essential to enhance SMEs' ability to generate, interpret, and manage ESG-related information. Without such support, the gap between regulatory expectations and organizational readiness is likely to persist.

7.3 Further Research Steps

This study opens several directions for future research. Empirical investigations are needed to assess how the identified determinants interact across sectors, firm sizes, and national contexts. Comparative analyses could help determine whether the Hungarian case reflects a broader regional pattern or a more general feature of SME-dominated economies. Further research may also explore the role of digitalization and artificial intelligence in reducing reporting burdens and strengthening information-generation capabilities. In addition, longitudinal studies could examine whether recent proportionality-oriented reforms effectively alleviate system-level pressures or primarily redistribute them across value chains.

By conceptualizing SMEs as institutionally embedded actors within a multi-level sustainability governance system, this study contributes to a more nuanced understanding of how European regulatory ambition reshapes economic organization beyond its formal boundaries. The long-term effectiveness of the EU sustainability reporting model will depend not only on regulatory refinement but also on the alignment between governance expectations and organizational capacity at the SME level.

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