Navigating the Grey Zone: Sustainable AI Governance and Leadership in SMEs

Krisztina Finta,[1] Luca Utassy,[1]
Klaudia Gabriella Horváth,[1] Ágnes Fűrész[2]
[1] Budapest Metropolitan University, Faculty of Business, Communication and Tourism, Budapest, Hungary
kfinta@metropolitan.hu; luca.utassy@gmail.com; khorvath@metropolitan.hu
[2] Hungarian University of Agriculture and Life Sciences, Doctoral School of Economic and Regional Sciences, Budapest, Hungary
furesz.agnes@phd.uni-mate.hu

Small and Medium-sized Enterprises (SMEs) operating within the European Digital Single Market face competing structural pressures: rapid Generative AI adoption driven by market competition, and mounting regulatory obligations under the EU AI Act. This paper addresses the resulting 'compliance vs. competitiveness dilemma' through an integrative literature review that synthesizes the Technology-Organization-Environment (TOE) framework with the business ethics literature on 'AI-washing' - the deliberate or structurally induced misrepresentation of governance practices in regulated deployment contexts. The analysis shows that internal resource constraints - deficits in human capital, financial capacity, and in-house expertise - systematically force SMEs into a 'grey zone' of symbolic compliance, even in the absence of deliberate deceptive intent (Schwaeke et al., 2024). The paper's central contribution is the SME-RAIL (SME Responsible AI Leadership) framework: a three-tier governance model that translates Algorithmic Accountability principles into a phased, resource-proportionate structure for smaller enterprises. The core argument is that the path out of the grey zone requires not additional compliance tools, but a fundamental shift from passive technological adoption to human-centric AI stewardship.

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1 Introduction

The integration of artificial intelligence into SME operations has shifted from a strategic option to a structural imperative - driven by competitive market dynamics that increasingly treat AI-enabled capabilities as baseline requirements rather than differentiators. Yet this same integration exposes SMEs to a mounting regulatory burden, most notably under the EU AI Act, creating a tension between the pressure to adopt and the obligation to govern. This paper examines that tension, which it terms the 'compliance vs. competitiveness dilemma'.

The dilemma is particularly acute within the European Digital Single Market. This integrated economic space is shaped by two opposing forces simultaneously: competitive pressure toward rapid AI deployment on one side, and a uniquely stringent, harmonized regulatory ecosystem on the other. The EU AI Act represents the latest and most consequential pillar of that ecosystem. The result is a landscape in which market imperatives and transparency obligations are not merely in tension but are structurally incompatible for resource-constrained enterprises.

The adoption pressure is well-documented. Generative AI has significantly lowered the access threshold for advanced capabilities, allowing SMEs to deploy tools previously available only to large enterprises (Schwaeke et al., 2024; Rajaram & Tinguely, 2024). At the same time, SME business models typically depend on relational proximity and trust - qualities that third-party 'black box' AI solutions can quietly undermine (Rajaram & Tinguely, 2024). This creates a secondary vulnerability that compounds the governance challenge.

On the regulatory side, the EU AI Act demands strict transparency and human oversight, with specific obligations falling not only on AI system providers but also on deployers - the category that covers most SMEs using third-party solutions (European Commission, 2024). Article 13 requires that users of high-risk AI systems receive clear information about system capabilities; Article 52 mandates explicit disclosure when AI is used to generate or manipulate content. Compliance with these provisions requires documentation, auditing capacity, and dedicated legal knowledge that few SMEs currently possess (Schwaeke et al., 2024; Stampernas & Lambrinoudakis, 2025). Moreover, if an SME customizes a foundation model, it may

itself qualify as a provider, triggering the full set of developer obligations - a dual exposure that makes the compliance challenge uniquely severe.

The gap between these two imperatives frequently pushes SMEs toward a 'grey zone' of symbolic compliance: the adoption of visible governance measures without the organizational substance to back them up. Understanding how this dynamic operates, and how it can be reversed, is the central aim of this study.

Three research questions guide the analysis:

- RQ1: How do external environmental factors (TOE: Environment & Regulation) force SMEs into deceptive governance practices (AI-washing)?
- RQ2: What organizational constraints prevent SMEs from meeting transparency obligations under the EU AI Act?
- RQ3: How can the 'Responsible AI Leadership' model support the establishment of sustainable AI governance in SMEs?

2 Theoretical Background

Synthesizing the Technology-Organization-Environment (TOE) framework with the concept of 'ethics washing' reveals how external environmental factors force SMEs into deceptive practices (RQ1).

2.1 TOE Framework for SME AI Adoption

The Technology-Organization-Environment (TOE) framework provides a theoretical lens for analyzing organizational technology adoption, identifying three contextual dimensions: technological characteristics, organizational readiness, and environmental pressures (Oliveira & Martins, 2011). This model has proven particularly valuable in SME contexts, where resource constraints and external market forces heavily influence digital innovation decisions (Gangwar et al., 2015; Sánchez et al., 2025).

On the technological dimension, artificial intelligence cannot be treated as a traditional, static software product. Rather, it represents a 'Dynamic Capability' that demands continuous strategic governance - not merely one-time acquisition (Mikalef & Gupta, 2021). This distinction matters for SMEs precisely because it shifts the governance burden from a discrete procurement decision to an ongoing organizational commitment.

The environmental dimension amplifies this burden. External market pressure and the 'democratization' strategies of competitors (Shore et al., 2024) push companies toward rapid AI implementation, often before adequate governance structures are in place. At the same time, the regulatory environment - most notably the EU AI Act - transforms AI adoption from a strategic choice into a compliance imperative, imposing transparency and oversight obligations that carry significant resource costs for smaller firms.

The organizational dimension mediates between these two pressures. SMEs' internal capacity constraints - limited human capital, restricted financial resources, and an absence of dedicated legal or technical expertise - determine whether the tension between competitive and regulatory demands can be absorbed or whether it defaults into symbolic compliance. This organizational vulnerability is examined in detail in Section 4.2.

Together, these three dimensions reveal how SMEs face two structurally opposing environmental forces: competitive pressure toward rapid adoption on one side, regulatory stringency on the other. This duality forms the theoretical basis for the 'compliance vs. competitiveness dilemma' this paper addresses.

2.2 From Greenwashing to AI-Washing

The inability to resolve this dilemma frequently forces organizations into the 'grey zone': a state of intentional ambiguity in which superficial compliance mechanisms - such as AI ethics policies without enforcement - substitute for substantive governance reform. In practice, organizations may publicly adopt codes of ethics while, through 'decoupling,' leaving actual operations unchanged. Such symbolic policy implementation is not necessarily driven by malicious intent; it frequently

manifests as a dysfunctional organizational response to genuine resource constraints and the absence of in-house expertise (Stahl et al., 2022; Eccles et al., 2014).

The theoretical foundation of this pattern lies in the ethics washing literature (Bietti, 2020). The literature employs several overlapping but technically distinct concepts in this space - 'ethics washing' (Bietti, 2020), 'machinewashing' (Seele & Schultz, 2022), 'digital ethicswashing' (Schultz et al., 2024), and 'AI-washing' - and these are not fully interchangeable. This paper adopts 'AI-washing' as its primary term, as it most precisely captures the phenomenon under examination: the deliberate or structurally induced misrepresentation of governance practices by organizations deploying these tools in a regulated context. A parallel strand of the literature conceptualizes AI-washing more narrowly, as the misrepresentation or concealment of AI use in consumer-facing communications - an interpretation reflected in regulatory enforcement actions (U.S. SEC, 2024) and consumer trust research (Kirk & Givi, 2025). This paper adopts the broader governance definition, focusing on the organizational conditions that produce deceptive signaling rather than the signals themselves. 'Ethics washing' is retained in the broader theoretical sense established by Bietti (2020) when referring to the general organizational pattern of symbolic compliance; 'machinewashing' and 'digital ethicswashing' are referenced where cited sources use those terms specifically. 'Ethics bashing,' also introduced by Bietti (2020), denotes a distinct phenomenon - the delegitimization of ethics discourse itself - and is not treated as synonymous with any of the above.

Wagner (2019) identifies the key bridge between these concepts: voluntary ethics mechanisms can be deployed strategically to forestall harder legal obligations - functioning as 'ethics as an escape from regulation.' This instrumental use of ethics structures is corroborated by Biddle et al. (2025), who demonstrate how ethics offices can remain purely performative, underscoring the need to distinguish symbolic structures from genuinely empowered ones. The broader organizational pattern - companies shifting between substantive governance and symbolic engagement in response to external scrutiny - is documented by Buhmann et al. (2020) in the context of algorithmic accountability.

Drawing on greenwashing theory, Seele and Schultz (2022) define 'machinewashing' as projecting an appearance of ethical conduct around automated systems without substantive governance to support the claim. This paper treats AI-washing as the

operationally specific form of this phenomenon within regulated deployment contexts, where the gap between declared and actual governance practices carries direct legal consequences under the EU AI Act. The mechanisms are structurally parallel to those described in greenwashing research: selective disclosure and empty policies serve the same signalling function as their environmental counterparts (Lyon & Montgomery, 2015; Schultz et al., 2024).

The legal stakes are substantial. Under the EU's Unfair Commercial Practices Directive (Directive 2005/29/EC), AI-washing falls within the category of unfair commercial practices - making it not merely an ethical failure but a corporate governance liability (Schultz & Seele, 2022). Since the social and environmental impacts of AI should be evaluated and disclosed within the ESG framework, poor disclosure practices and the absence of unified standards enable this misrepresentation to persist at scale (Sætra, 2021; Bozsik et al., 2025). The broader EU push toward transparent, comparable governance metrics - visible in composite indicator frameworks developed for circular-economy performance measurement across Member States - underscores that the standardization challenge extends well beyond AI alone (Kozma et al., 2022).

3 Methodology

The methodological foundation of this study is an Integrative Literature Review (ILR). Although empirical data collection remains dominant in management and organizational sciences, literature synthesis has developed into an independent research methodology in its own right - one capable of generating theoretical models rather than merely cataloguing existing findings (Snyder, 2019). Tranfield et al. (2003) argue that systematic review can produce 'evidence-informed' management knowledge with direct relevance to practitioners, a quality particularly valuable when the empirical record is still thin. This is the case here: although the EU AI Act entered into force in 2024, SMEs' practical experience of operating under its requirements is still accumulating, and longitudinal analysis of governance responses is not yet feasible. Conceptual synthesis is therefore the most appropriate methodological choice at this stage.

The ILR was selected on the basis of Grant and Booth's (2009) review taxonomy. Unlike the classic systematic literature review - which has already mapped the field of digital ethicswashing (Schultz et al., 2024) - the ILR is specifically designed to bridge previously isolated theoretical frameworks (Snyder, 2019; Grant & Booth, 2009). Here, the conceptual bridge connects the technology adoption literature, represented by the TOE framework, with the business ethics scholarship on AI-washing and symbolic compliance. Rather than summarizing past findings, integrative review actively generates new theoretical models through cross-framework synthesis (Torraco, 2005).

To ensure methodological rigor and transparency, the research followed Torraco's (2005) five-phase procedure: (1) problem formulation, (2) data collection, (3) evaluation of sources, (4) analysis, and (5) presentation of results.

The literature search was conducted across three databases - Scopus, Web of Science and Google Scholar - using the following keyword combinations: 'AI governance SME', 'ethics washing artificial intelligence', 'EU AI Act compliance', 'TOE framework AI adoption', and 'algorithmic accountability'. The search was limited to publications between 2019 and 2025, reflecting the period in which generative tools entered mainstream organizational use and the EU regulatory framework took shape. In the preparatory phase of the conceptual scoping process, the Consensus AI-powered literature discovery tool was also employed to identify relevant research directions; sources flagged through this tool were subsequently verified and evaluated manually against the databases listed above.

An initial pool of 148 sources was identified, of which 38 were retained following a two-stage screening process: first by title and abstract relevance, then by full-text evaluation against the governance and organizational focus criteria outlined below. To ground the theoretical background, 10 foundational papers published before 2019 were added, yielding a final corpus of 48 references. Sources were excluded if they treated AI-washing exclusively as an external communication or marketing phenomenon, or if they focused on large enterprises without reference to resource-constrained contexts.

This boundary requires explicit justification. The concept of AI-washing as defined by Seele and Schultz (2022) and Schultz et al. (2024) inherently encompasses an external communication dimension - misleading signals directed at stakeholders are, by definition, outward-facing. The research questions of this study, however, concern the internal governance failures that produce those signals, not the signals themselves. Sources focused exclusively on AI-washing as a marketing or public relations problem - without examining the organizational conditions that generate it - were therefore excluded as outside the structural diagnosis this paper advances. The external stakeholder communication dimension is recognized as a complementary research direction and is identified as a priority for future empirical work.

The synthesized results follow a conceptual rather than chronological structure (Torraco, 2016): from compliance pressure (TOE) through the governance failures that produce AI-washing, to the Responsible AI Leadership model proposed as a structural response. Each retained source was coded along three dimensions: (1) the type of compliance pressure described (regulatory, competitive, or reputational); (2) the organizational response pattern identified (substantive governance, symbolic compliance, or grey zone behavior); and (3) the proposed mitigation mechanism, if any. This coding structure enabled the cross-source identification of the TOE-AI-washing linkage and the organizational conditions that sustain it, which form the analytical backbone of Sections 4.1 and 4.2.

4 Results

The analysis below traces how the three TOE dimensions - environmental, technological, and organizational - generate the governance failures that produce AI-washing in SME contexts.

4.1 Environmental Drivers of Deception

For SMEs, the environmental and technological pillars of the TOE framework currently generate overlapping pressures that push organizations toward the 'grey zone' of symbolic compliance. On one hand, the perceived usefulness of AI (Davis, 1989) and the imperative to survive in a turbulent market (Shore et al., 2024) drive companies toward immediate, often hasty adoption. This pressure is particularly

pronounced in sustainability-sensitive sectors, where AI-based tools are actively promoted as instruments for fostering energy awareness and behavioral change - adding a reputational dimension to the adoption imperative (Fűrész, 2025). On the other hand, the EU AI Act's risk-based model imposes compliance obligations that present disproportionate challenges for smaller firms even at a conceptual level (Mancheva, 2022), compounded by the multi-level governance structure that generates opaque institutional pressure on SMEs (Cancela-Outeda, 2024).

As detailed in Section 2, Articles 13 and 52 impose specific disclosure obligations that transform AI from a competitive asset into a compliance burden. Interpreting these provisions, classifying systems by risk level (Annex III), conducting third-party audits (Articles 43-44), and producing technical documentation (Article 11) represent precisely the 'disproportionate compliance costs' identified by Schwaeke et al. (2024). These requirements are embedded within the EU's seven-point 'Trustworthy AI' framework, which links abstract ethical principles to mandatory regulatory obligations (Díaz-Rodríguez et al., 2023).

This is where the environmental pillar of the TOE model intersects directly with the AI-washing pattern defined in Section 2.2. SMEs already dependent on unverifiable 'black box' solutions due to vendor lock-in (Mikalef & Gupta, 2021) lack the internal capacity to meet these expectations. The combination of external competitive pressure and regulatory stringency - pulling in opposite directions simultaneously - is what makes symbolic compliance the path of least resistance. Rather than investing in substantive governance, SMEs follow Wagner's (2019) logic of 'ethics as an escape from regulation': superficial measures substitute for structural reform, and the organization slides into AI-washing not necessarily through deliberate deception, but through the accumulated weight of an unresolvable dilemma.

Figure 1 illustrates this structural pathway - from the three TOE dimensions through the compliance dilemma to the grey zone and its AI-washing outcome.

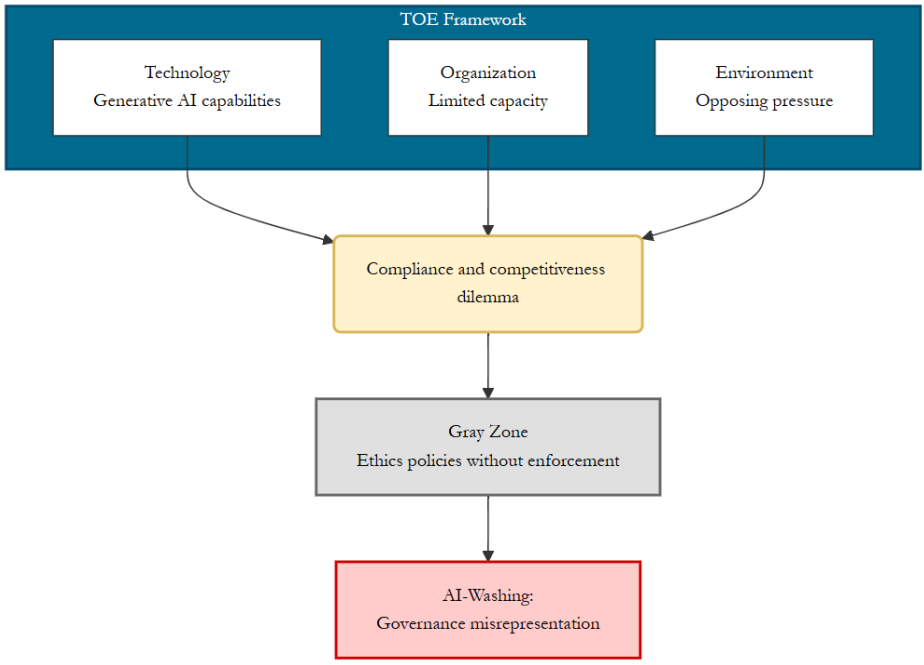

Figure 1: TOE framework dimensions and the structural pathway to AI-washing in SMEs
Source: Authors' own elaboration.

4.2 Organizational Constraints (RQ2)

The retreat into symbolic compliance that external pressures initiate is made structural by what the organizational pillar of the TOE framework reveals: SMEs lack the internal capacity to implement genuine AI governance. Stahl et al. (2022) document that resource-constrained enterprises face a significant human capital deficit - lacking both the technical expertise required for algorithmic auditing and the dedicated legal knowledge needed to navigate the EU AI Act. This knowledge gap is compounded by the financial constraints that prevent even the acquisition of external transparency tools.

Digitalization more broadly exposes interfunctional coordination problems within SMEs (Ruiz-Alba et al., 2020), and AI adoption amplifies these into gaps in technological readiness and core business function integration (Le Dinh et al., 2025). The regulatory stakes make this organizational unpreparedness particularly consequential: SME awareness of the EU AI Act remains limited despite years of

GDPR compliance struggles (Joswig & Kurz, 2025), while the Act prescribes financial sanctions calculated as a percentage of annual turnover - a penalty structure whose full weight most affected organizations have not yet confronted (Stampernas & Lambrinoudakis, 2025). The same competence and resource gaps that generate symbolic compliance also prevent SMEs from realizing AI's documented potential for managerial productivity and decision-making efficiency - a double cost that the governance literature has only recently begun to quantify (Garg et al., 2024).

Facing this combination of pressures, SMEs resort to the washing mechanisms identified in Section 2 (Lyon & Montgomery, 2015; Bietti, 2020). They substitute substantive transparency with nominally ambitious but unenforceable ethics policies, and shift accountability to third-party vendors through selective disclosure - a pattern Biddle et al. (2025) identify as characteristic of organizations that have ethics structures in form but not in function. These deficiencies are self-reinforcing: the less internal capacity an SME has, the more it relies on symbolic measures, and the further it retreats from the governance substance the EU AI Act requires. Breaking this cycle is the challenge the SME-RAIL framework addresses in Section 4.3.

4.3 The SME-RAIL Framework

The SME-RAIL framework translates the governance failures identified in Sections 4.1 and 4.2 into a structured operational response. The three tiers are designed to be implemented sequentially: the Strategic Level establishes the accountability foundation without which the Operational and Market levels cannot function. Each tier addresses a distinct failure mode - the absence of personal accountability, the absence of documented practice, and the absence of external trust - and together they form a minimum-viable governance structure calibrated to the resource constraints the analysis diagnoses.

The framework aligns internal organizational capabilities across the strategic and operational levels with the external stakeholder expectations that define the market dimension, as set out in Table 1.

Table 1: The SME-RAIL (Responsible AI Leadership) Governance Framework

Governance Dimension	Conceptual Foundation	Operational Mechanism	Desired Outcome
1. Strategic Level (Top Management Team)	Complex Leadership & Human-centric stewardship (Floridi, 2023; Peñarroya-Farell et al., 2025)	Designating a senior manager as 'AI Steward' with personal accountability for disclosure obligations under Articles 13 and 52 of the EU AI Act; treating human oversight as a structural governance commitment rather than a technical fallback.	Overcoming the 'Compliance vs. Competitiveness' dilemma.
2. Operational Level (Accountability)	FAT Framework & Algorithmic accountability (Shin & Park, 2019; Papagiannidis et al., 2025)	Maintaining an internal 'AI register' documenting every third-party system in use, the data it accesses, and its decision scope; applying human-in-the-loop validation to high-impact outputs such as automated pricing or predictive marketing.	Eliminating symbolic compliance (AI-washing).
3. Market Level (Stakeholder Trust)	Entrepreneurial Resilience & B2B Market Knowledge (Shore et al., 2024; Paschen et al., 2019)	Proactively communicating governance practices - including the scope of the AI register and the validation process - to B2B partners as part of standard contractual interactions; using transparency as a differentiating signal rather than a compliance obligation.	Long-term market resilience and deep B2B trust.

Source: Authors' own elaboration based on the literature synthesis.

5 Discussion: Responsible AI Leadership

The following sections address RQ3 by tracing how the SME-RAIL framework translates into leadership practice - from philosophical grounding through operational accountability to market-level trust.

5.1 Paradigm Shift: From Philosophical Foundations to Complex Leadership

The human-in-the-loop principle that underpins the SME-RAIL framework is not merely a technical safeguard - it reflects a philosophical reality about the nature of current AI systems. As Floridi (2023) argues, these models function as agents without genuine intelligence or intention: they produce outputs without understanding, purpose, or moral standing. Because the technology cannot bear responsibility, the full weight of accountability rests on the human decision-makers who deploy and oversee it. This concentration of responsibility in human hands is what makes governance a leadership question rather than an IT question. The three-tier structure of the SME-RAIL framework is a direct organizational response to this reality - not because AI is inherently dangerous, but because its consequences are, and no internal mechanism will self-correct for absent oversight or poor judgment.

Organizations must therefore move beyond technology acquisition and embed governance accountability as a core leadership responsibility. This is a significant change management challenge: corporate leadership often experiences tension between short-term performance pressures and longer-term legal and ethical expectations (Hickman & Petrin, 2020), and AI governance adds a new layer of complexity to that tension. Complex Leadership theory offers a productive framework for navigating it, treating governance not as a constraint imposed on strategy but as a dimension of leadership capability in itself (Peñarroya-Farell et al., 2025).

The concept of Responsible AI Leadership builds on this foundation. Drawing on Stahl and Eke's (2024) ethical grounding and the EU's 'Trustworthy AI' requirements (Díaz-Rodríguez et al., 2023), it represents a governance shift from technology-centric adoption to human-centric stewardship - one that prioritizes algorithmic accountability over efficiency-focused transformation. Within the SME context, this means converting the human-in-the-loop principle from a baseline compliance mechanism into a continuous organizational commitment: transparency becomes a relational asset, and governance becomes the foundation of long-term stakeholder trust.

5.2 Mitigating "Washing": Algorithmic Accountability in Practice

AI-washing exploits the information asymmetries between an organization and its stakeholders. Kemper and Kolkman (2019) establish that algorithmic accountability requires an audience capable of scrutinizing governance claims - symbolic ethics structures generate no genuine trust precisely because they cannot withstand that scrutiny (Buhmann et al., 2020).

The SME-RAIL framework addresses this through the FAT (Fairness, Accountability, Transparency) principles (Shin & Park, 2019), translating them into three concrete governance steps accessible to resource-constrained enterprises. Rather than deploying costly compliance software, an SME can begin by maintaining a simple internal 'AI register' that maps where third-party algorithms operate and what data they access. This documented transparency must be coupled with human-in-the-loop validation: a designated employee reviews high-impact outputs - automated pricing decisions, predictive B2B marketing messages - before they reach partners or customers. Personal accountability is then anchored by designating an existing senior manager as 'AI Steward,' responsible for the organization's disclosure obligations under Articles 13 and 52 of the EU AI Act.

A legitimate objection concerns the framework's own resource demands. Appointing an AI Steward, maintaining a register, and running validation protocols all require time and organizational capacity - the very resources identified as scarce in Section 4.2. This tension is real but resolvable through a straightforward cost-risk comparison. The EU AI Act's financial penalties are calculated as a percentage of annual turnover (Stampernas & Lambrinoudakis, 2025), meaning that for most SMEs, a single enforcement action would far exceed the cumulative cost of these governance steps. The SME-RAIL framework is not designed as a full compliance infrastructure to be deployed at once, but as a phased, minimum-viable structure in which each step generates immediate risk reduction. Designating an existing manager as AI Steward, for instance, requires no new hire - it requires a redefinition of accountability.

5.3 Business Value: Entrepreneurial Resilience and B2B Trust

Responsible AI Leadership carries strategic value beyond regulatory compliance. A significant proportion of SMEs operate within supply chains and business networks where AI-generated insights - customer demand forecasting, predictive pricing, automated partner communications - are becoming standard commercial tools. In these B2B contexts, transparent AI disclosure is not optional; it is a precondition for maintaining the relational trust on which SME business models depend (Paschen et al., 2019).

When organizations communicate their AI governance practices proactively - framing data security and algorithmic transparency as standard elements of commercial relationships rather than legal obligations (Eid et al., 2024) - governance becomes a market signal. Over time, this conscious integration builds the adaptive capacity that Shore et al. (2024) identify as the foundation of entrepreneurial resilience during periods of market turbulence. The organizations that establish governance credibility before it is demanded are better positioned to maintain partner trust when regulatory scrutiny intensifies - a scenario the EU AI Act's phased implementation schedule makes increasingly likely.

6 Conclusions

This paper has examined how SMEs operating within the European Digital Single Market navigate the structural tension between competitive pressure toward rapid AI adoption and the transparency obligations imposed by the EU AI Act. The integrative literature review demonstrates that this tension is not resolvable through compliance tools alone: the internal resource constraints documented across the organizational pillar of the TOE framework - deficits in human capital, financial capacity, and legal expertise - systematically generate symbolic compliance regardless of organizational intent.

The analysis responds to all three research questions: it identifies the environmental and organizational forces that push SMEs into the grey zone (RQ1, RQ2), and proposes a concrete, resource-proportionate governance model as a structured response (RQ3).

The SME-RAIL framework operationalizes this response through FAT principles into three sequential governance tiers – strategic accountability, operational documentation, and market-facing transparency – providing a minimum-viable governance structure calibrated to the constraints it diagnoses. The framework's central argument is that transparency, reframed as a relational asset rather than a regulatory burden, creates the conditions for long-term B2B trust and entrepreneurial resilience.

The framework's applicability is not uniform across the EU. SMEs operating in member states with stronger administrative support infrastructure - such as dedicated AI regulatory sandboxes or national SME compliance programs - face a materially different implementation environment than those in regions where such mechanisms are absent. Similarly, sectors subject to high-risk AI classification under the Act face more immediate governance obligations than those operating outside that scope. Future empirical work should account for these regional and sectoral variations when testing the framework's practical feasibility.

6.1 Managerial and Policy Implications

For SME leadership, the practical implication is direct: AI adoption cannot be managed as a standard IT procurement decision. Because the technology produces consequential outputs without any capacity for self-correction or judgment, its integration places the full weight of governance responsibility on the organization's leadership. The SME-RAIL framework operationalizes this responsibility through three concrete steps - designating an AI Steward, maintaining an AI register, and instituting human-in-the-loop validation - each of which generates measurable risk reduction without requiring new organizational infrastructure.

For policymakers and regulatory authorities, the findings highlight a structural problem with enforcement-only approaches. Financial penalties calculated as a percentage of turnover create significant deterrence on paper, but without dedicated support mechanisms - SME-specific regulatory sandboxes, accessible open-source compliance tools, and clear operational guidelines - they are more likely to drive smaller enterprises deeper into the grey zone than to produce genuine transparency. Achieving substantive compliance in the digital single market requires actively reducing the cost of governance, not only raising the cost of non-compliance.

6.2 Limitations and Future Research

The primary limitation of this study is its conceptual nature. The SME-RAIL framework is grounded in a theoretically rigorous literature synthesis, but its practical feasibility has not yet been tested empirically. Future research should employ both quantitative and qualitative methods - including in-depth interviews with SME leaders and case studies in B2B networks - to examine how the framework performs under real organizational conditions, with particular attention to the resource and sectoral variations noted above.

A second limitation concerns scope. By focusing on the internal governance failures that produce AI-washing, the study deliberately sets aside the external communication dimension of the phenomenon - the misleading signals directed at stakeholders. This dimension is recognized as a complementary research priority, and its empirical investigation would extend the analytical framework developed here.

Declaration of AI usage: During the preparation of this work, the authors used Consensus AI for literature search and conceptual discovery, and Claude AI and Gemini for structural refinement and language editing. After using these tools, the authors thoroughly reviewed and edited the content as needed, and take full responsibility for the final content of the publication.

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About the authors

Krisztina Finta. Krisztina has been working in digital marketing for more than 10 years, with a strong focus on campaign planning, data analysis, and the application of AI-based tools. As Marketing Manager of Oszkár Telekocsi, she played an active role in both strategic and operational functions. She currently works as an independent consultant and teaches Social Media and SME Marketing at Budapest Metropolitan University, where the integration of AI solutions is a key focus of her courses.

Luca Utassy. Luca has been working as a full-stack marketing professional for many years, with a primary focus on digital and performance marketing. For nearly 10 years, she has been strengthening the teams of educational institutions, while also teaching digital marketing related subjects at Budapest Metropolitan University, Budapest International College and Budapest University of Economics and Business.

Klaudia Gabriella Horváth. Klaudia has been working in the field of innovation management since 2019, focusing on collaborations between universities and Hungarian SMEs, product development processes, and the interconnections between corporate sustainability and product positioning. She earned her PhD in Public Management at the University of Public Service in Hungary. Alongside her

teaching and research activities, she has gained experience in public administration as well as in multinational corporations such as P&G and Tungsram, providing her with strong practical insight into the corporate implementation of sustainability.

Ágnes Fűrész. Ágnes Fűrész is a PhD student at the Hungarian University of Agriculture and Life Sciences (MATE), Doctoral School of Economic and Regional Sciences. She has nine years of experience as a marketing and communications professional, specializing in internal and external corporate communication as well as social media management, with industry experience at MAVIR ZRt. Her current research focuses on consumer behavior, patterns, and attitudes related to renewable energy and energy awareness. Additionally, she investigates the role of online communication and artificial intelligence in promoting energy consciousness.