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## Double materiality and SWOT analysis: a practical framework for environmental impact and sustainability assessment

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**Abstract:** Double materiality is becoming a necessity in sustainability reporting, as it is essential for aligning organisational strategies with ESG priorities. This study proposes a framework to embed SWOT analysis within sustainability reporting, focusing on double materiality. By positioning SWOT as a bridge, the framework enables a holistic evaluation of internal capabilities and external ESG-related risks and opportunities. It encourages periodic updates to question sets, supporting an evolving, stakeholder-inclusive process aligned with annual reporting cycles. This approach offers organisations a practical reference to develop transparent, credible, and adaptable sustainability disclosures, reinforcing their strategic decision-making and compliance with increasingly complex reporting standards.

**Keywords:** SWOT analysis; sustainability reporting; double materiality; environmental sustainability; climate change.

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## 1 Introduction

In recent years, sustainability reporting has become increasingly essential for organisations committed to transparency, accountability, and sustainable development. Corporate reporting practices now frequently integrate environmental, social, and governance (ESG) dimensions alongside conventional financial metrics. Most widely utilised frameworks currently shape sustainability reporting standards, including global reporting initiative (GRI), the International Sustainability Standards Board (ISSB; IFRS S1/S2), and the European Union’s Corporate Sustainability Reporting Directive (CSRD) with the ESRS. Each of which plays a pivotal role in guiding organisations toward standardised, transparent, and impactful sustainability disclosures, tailored to diverse stakeholder needs and regulatory landscapes.

GRI operates as a voluntary, multi-stakeholder standard set that elicits disclosures about an organisation’s impacts on the economy, the environment, and society, thereby applying an impact-materiality perspective intended for a broad stakeholder audience. On the other hand, ISSB establishes an investor-oriented global baseline that emphasises financial materiality by requiring companies to disclose sustainability-related risks and opportunities that could reasonably affect enterprise value, with IFRS S1 (governing general sustainability disclosures) and IFRS S2 (specifying climate-related requirements). Conversely, CSRD, implemented through ESRS, functions as a binding legal administration in the EU and mandates assurance on sustainability statements, digital tagging for comparability, and a double-materiality approach that integrates both outward impacts and inward financial effects.

The primary differences between the GRI, ISSB, and CSRD/ESRS frameworks lie in their objectives and audiences. GRI focuses on broad stakeholder impacts, while the investor-centric ISSB targets financial materiality, and the CSRD/ESRS serves EU regulators. These differences extend to their legal enforceability and level of detail; for instance, ESRS is legally binding while the voluntary GRI is the most widely adopted. Consequently, organisations are using a hybrid approach: leveraging GRI for

transparency while using ISSB and CSRD/ESRS for investor and regulatory compliance. This integrated reporting is made possible by the frameworks' growing interoperability.

This evolving environment requires organisations to move beyond mere compliance and develop a truly integrated strategy. A systematic approach is therefore essential to harmonise the demands of financial and impact materiality effectively. Using SWOT analysis in sustainability reporting ensures that the disclosure process moves beyond mere compliance to become a strategic tool for managing both financial and non-financial risks successfully. The aim of this study is to address the current gap in practical guidance for systematically incorporating both financial and impact materiality into corporate sustainability reporting. To fill this gap, the study introduces a structured framework that integrates strengths, weaknesses, opportunities, and threats (SWOT) analysis into double materiality assessments, enabling organisations to identify and manage material ESG issues more effectively, enhance stakeholder trust, and align with emerging regulatory requirements.

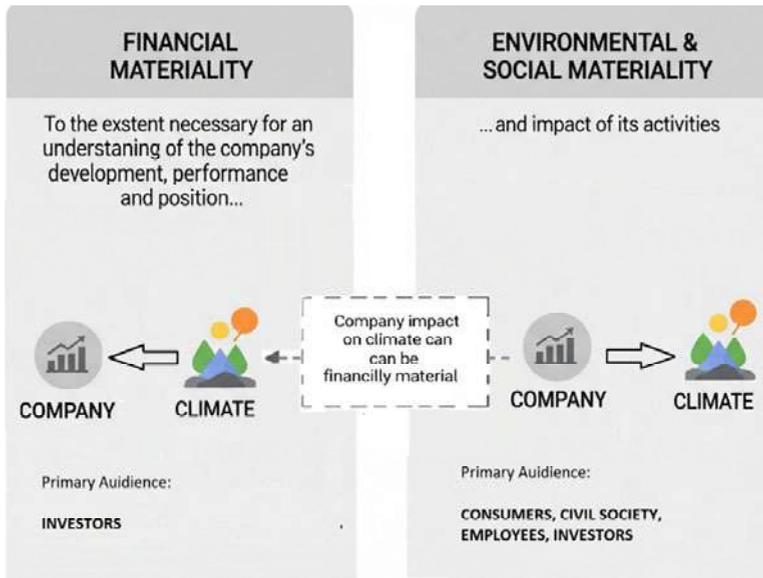
## **2 The strategic role of SWOT analysis in sustainability reporting: a conceptual overview**

### *2.1 Double materiality concept*

As one of the most widely used frameworks globally, the GRI provides comprehensive guidelines for sustainability reporting, enabling organisations to transparently disclose their ESG performance. Building on the GRI framework, the EU developed its own mandatory sustainability reporting standards under the CSRD not to replace GRI, but to create a legally binding and standardised framework tailored to its specific European green deal objectives. The CSRD encourages companies to adopt a holistic reporting approach that considers not only factors affecting their financial performance but also their impact on the environment and society. Thus, the CSRD emphasises double materiality as a core principle. This transition represents a pivotal development in sustainability reporting, prompting companies to embed broader environmental and social considerations into their strategic decision-making and risk assessment processes (Baumüller and Sopp, 2021). Under CSRD, a topic is 'material' if it significantly impacts financial performance or affects society/environment substantially. Originating from the European Commission, double materiality identifies material issues from two perspectives: impact materiality (inside-out) and financial materiality (outside-in) (European Commission, 2019).

Figure 1 illustrates the double materiality concept, showing how the financial materiality perspective (left) focuses on the impact of external sustainability factors (e.g., climate change) on the company's development, performance, and position, primarily for investors (European Commission, 2019). Conversely, the environmental and social materiality perspective (right) addresses the company's impact on climate, people, and the planet, serving the interests of consumers, employees, civil society, and increasingly investors. Together, these form the 'double materiality' lens in sustainability reporting.

**Figure 1** Complementary dimensions of double materiality concept (see online version for colours)



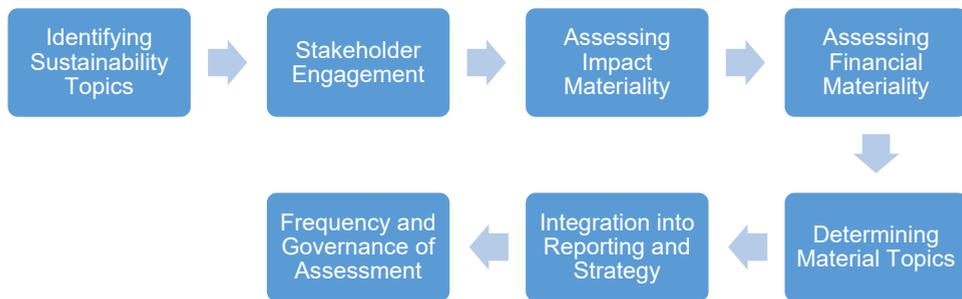
According to Raith, the inside-out perspective evaluates the impacts a company has on its stakeholders and the environment through its operations (Raith, 2022). Stakeholders play a vital role in this process, helping companies identify significant social and environmental issues (Fiandrino et al., 2022). Baumüller and Sopp (2021) note that this approach aligns with the traditional European method of assessing materiality by emphasising the most relevant social and environmental issues affected by a company's activities. Conversely, financial materiality, as described by Abhayawansa, requires companies to identify the social and environmental factors that could influence their financial value creation (Abhayawansa, 2022). This perspective was not historically dominant in Europe. Adams and Mueller observe that assessing financial materiality poses challenges, as companies must identify external risks that could affect their financial performance and market continuity (Adams and Mueller, 2022). Primec and Belak (2022) argue that understanding financially material issues enables companies to manage these risks effectively and develop more robust strategic approaches. Additionally, Raith highlights that knowledge of financial materiality is invaluable for investors, offering insights into business continuity (Raith, 2022). However, companies accustomed to focusing solely on financial materiality often face significant hurdles when addressing impact materiality. This approach requires sufficient resources to identify and engage stakeholders and demands technical and human expertise to measure social and environmental impacts. Such challenges underscore the complexity of adopting a comprehensive double materiality framework.

Despite its benefits, implementing double-materiality concept poses several challenges for companies, particularly in balancing financial and non-financial considerations within the constraints of available data and resources. Establishing clear, consistent criteria for materiality that address both financial and societal impacts can be complex, as it requires cross-functional input and often sophisticated data analytics.

Furthermore, differences in how materiality is defined and interpreted across various jurisdictions can complicate multinational companies' efforts to comply effectively with double materiality standards.

Within the CSRD framework, the double materiality principle is operationalised through a structured assessment process, which companies must formally execute and document in their sustainability reports. Practically, this requires performing a detailed double materiality evaluation to pinpoint topics that are material, either due to their external impacts or internal financial significance, and therefore necessitate disclosure. Figure 2 illustrates this holistic framework, providing a visual guide that supports companies in systematically integrating SWOT analysis into their double materiality assessments. Each of the six steps described below aims to facilitate a comprehensive and cohesive analysis.

**Figure 2** Framework for double materiality analysis in sustainability reporting (see online version for colours)



Based on the process outlined in Figure 2, the double materiality principle under the CSRD is carried out through a structured approach. The first step involves identifying relevant sustainability topics across ESG dimensions, as guided by ESRS. These topics are derived through a broad review of regulatory expectations, industry benchmarks, stakeholder concerns, and previous materiality assessments. Subsequently, stakeholder engagement is conducted to capture both internal and external perspectives. As a key feature of the double materiality approach, this phase allows organisations to capture both dimensions of materiality: understanding how their operations influence people and the environment (impact materiality) and assessing how sustainability-related risks and opportunities may, in turn, affect their financial position and performance (financial materiality). Both types of materiality are then assessed separately using structured criteria such as severity, scale, likelihood, financial magnitude, and time horizon. The material topics are those considered significant under either lens, and they form the foundation for reporting, target setting, and strategic planning. These identified topics are then incorporated into both corporate strategy and reporting practices, ensuring alignment between what is disclosed and what is acted upon. The process culminates in the establishment of a governance mechanism for regular reassessment, allowing the organisation to adapt to evolving sustainability challenges and shifting stakeholder expectations. This structured approach strengthens transparency, enhances comparability, and promotes accountability within sustainability reporting.

## 2.2 SWOT analysis

SWOT analysis offers a structured approach that aligns well with the core principles of the double materiality concept. By enabling organisations to evaluate both internal and external factors through a sustainability lens, SWOT helps bridge financial and impact materiality. Identifying internal strengths and weaknesses provides insight into a company's capacity to meet its sustainability goals, an essential element in understanding financial materiality and managing related risks. At the same time, examining external opportunities and threats allows organisations to uncover broader social and environmental issues that could affect their ability to fulfill these objectives, thus addressing the outward-facing dimension of materiality (Schaltegger and Burritt, 2018). This dual perspective positions SWOT as a valuable tool for integrated sustainability planning. When applied within a double materiality framework, SWOT facilitates the alignment of sustainability priorities with business strategy while enhancing an organisation's ability to report meaningfully on both financial and non-financial dimensions.

Originally developed in the context of corporate strategy and performance management, SWOT analysis has long served to improve competitiveness, refining market positioning, and boosting operational efficiency. As a foundation for strategic decision-making, it allows companies to assess their standing in the market and respond proactively to changing business conditions. Its strength lies in offering a holistic view of both internal capabilities and external dynamics, making it a long-standing and widely adopted tool in corporate management (Dyson, 2004).

More recently, researchers have begun exploring how SWOT analysis can be applied to sustainability reporting, recognising its potential to evaluate ESG factors alongside traditional business considerations. The method's structured format supports systematic assessments of sustainability initiatives, helping organisations identify where they can improve their societal and environmental impact (Hansen and Schaltegger, 2016). For example, by mapping ESG-related strengths and weaknesses, companies gain clearer insight into their readiness to advance sustainability goals, while scanning for external opportunities and threats enables anticipation of broader challenges such as climate change or evolving regulatory demands.

Although empirical research directly focusing on SWOT's application in sustainability reporting is still emerging, a number of academic contributions have underlined its relevance for strategy development in this area. Hansen and Schaltegger, in particular, suggest that SWOT enables firms to integrate sustainability concerns into strategic decision-making processes, thereby aligning corporate goals with environmental and social responsibilities (Hansen and Schaltegger, 2016).

This study explores how SWOT analysis can be systematically embedded into sustainability reporting frameworks when viewed through the lens of double materiality. It emphasises both the organisation's impact on external systems and how environmental and social dynamics, in turn, influence the organisation. Adopting a structured SWOT approach helps organisations engage more effectively with stakeholders, identify and manage ESG-related risks, and ensure greater alignment between internal strategies and wider societal expectations. Ultimately, the findings suggest that integrating SWOT into sustainability reporting not only supports compliance with evolving regulatory requirements but also equips companies with a practical and strategic tool for navigating today's complex sustainability landscape in a forward-looking and balanced manner.

### 2.3 Integrating SWOT analysis with double materiality in sustainability reporting

A SWOT analysis informed by the double materiality perspective requires organisations to assess both internal and external factors, considering not only financial performance but also environmental and social impacts. This dual lens enables a more integrated and comprehensive evaluation of strategic positioning, helping companies align their sustainability goals with broader objectives such as long-term risk management, regulatory readiness, and value creation. By incorporating both impact and financial materiality into their analytical processes, organisations are better positioned to identify meaningful areas for improvement, innovation, and strategic alignment within their sustainability agendas.

Internal strengths and weaknesses should reflect not only financial resilience but also sustainability performance. The knowledge, awareness, and capabilities of employees – ranging from frontline workers to senior management – on key topics such as climate change, energy efficiency, and carbon emissions play a central role in determining an organisation's ability to respond to environmental challenges. Factors such as educational background, access to training, and adaptability to evolving regulations and societal expectations are increasingly viewed as strategic assets. Conversely, gaps in ESG awareness or low engagement across the workforce may represent significant internal vulnerabilities when assessed through a double materiality lens.

At the same time, external opportunities and threats must be evaluated considering wider economic, environmental, and societal trends. These factors not only shape financial outcomes but also influence an organisation's broader ESG exposure. For instance, a shortage of skilled labour in sustainability-focused roles can threaten both operational efficiency and the organisation's capacity to implement effective environmental and social initiatives. On the other hand, favourable economic conditions, progressive policy environments, or emerging green markets can present valuable opportunities to enhance sustainability performance and strengthen long-term competitiveness. Leadership's responsiveness to such challenges is closely tied to their knowledge, openness to learning, and alignment with sustainability principles. In this context, governance should be viewed as a multi-tiered structure – including executives, employees at all levels, and external stakeholders such as shareholders and suppliers – whose collective effectiveness influences the material issues the company discloses.

- Internal strengths and weaknesses under double materiality: double materiality calls for organisations to assess both, how sustainability issues affect financial performance and how the company's operations impact society and the environment (GRI, 2023). Internal strengths may include robust ESG governance, ethical supply chains, energy-efficient operations, and a well-established culture of corporate social responsibility (CSR). These attributes help mitigate operational risks, enhance financial resilience, and build transparency and trust among stakeholders – key factors in sustaining long-term ESG performance. For example, a workforce well-versed in sustainability practices can help organisations navigate regulatory shifts and stakeholder demands, turning internal capabilities into strategic assets (Shalhoob and Hussainey, 2023). Conversely, internal weaknesses may stem from high greenhouse gas emissions, inadequate green innovation, poor waste management, or limited diversity in leadership. Weak governance or low

sustainability literacy among employees can amplify these issues, increasing the likelihood of regulatory non-compliance and eroding stakeholder confidence (Dilling and Harris, 2018). Identifying such weaknesses within a double materiality framework allows for proactive ESG improvements and better alignment with stakeholder expectations.

- External opportunities and threats under double materiality: in a double materiality context, opportunities include external trends, innovations, or policy changes that support both financial gains and positive ESG outcomes. These may encompass growing consumer demand for sustainable products, technological advances in clean energy, favourable regulatory developments, or public incentives for climate-positive initiatives. Capitalising on these trends can enhance a firm's market position, open new revenue streams, and signal leadership in responsible business practices. For instance, investments in renewable energy not only reduce long-term operating costs but also align with stakeholder and investor expectations around climate action (Porter and Kramer, 2019). Likewise, access to sustainability-trained professionals or government-backed programs can reinforce a company's strategic direction.

Conversely, threats include external risks that may compromise financial performance and hinder progress toward sustainable development. These include the effects of climate change, resource scarcity, volatile regulations, macroeconomic instability, and shifting societal expectations. For example, stricter environmental regulations may increase compliance costs, while physical climate risks such as extreme weather events could disrupt operations and affect asset value (Linnenluecke et al., 2015). A lack of access to skilled ESG professionals can also delay or obstruct key sustainability initiatives. Recognising such threats enables organisations to build resilience, communicate more effectively with stakeholders, and maintain trust in the face of growing scrutiny from regulators, investors, and the public.

This integrated approach enables a systematic identification of both internal and external factors across financial and sustainability dimensions. Internally, features such as strong governance and ethical supply chains emerge as key strengths, reinforcing resilience and stakeholder trust. Conversely, issues like excessive emissions or weak waste management practices signal areas of vulnerability. Externally, developments like clean energy innovation or government incentives represent strategic opportunities, while systemic risks such as climate change or shortages in sustainability-skilled labour highlight critical threats. Mapping these elements within a double materiality-informed SWOT matrix allows organisations to prioritise actions that advance both financial performance and sustainable impact.

Integrating SWOT analysis into the double materiality framework provides organisations with several strategic advantages. One of the primary benefits lies in its capacity to deliver a comprehensive view of material issues. By facilitating the parallel assessment of internal capabilities and limitations (strengths and weaknesses) alongside external dynamics (opportunities and threats), SWOT helps align financial priorities with social and environmental considerations (Schaltegger and Burritt, 2018). This integrative perspective bridges the divide between conventional financial reporting and sustainability disclosures, supporting a more balanced and responsive approach to regulatory requirements and stakeholder expectations (Edgley et al., 2015). As a result, organisations are better positioned to craft responses that simultaneously address environmental challenges and reinforce business objectives.

SWOT analysis also enhances stakeholder engagement by encompassing the diverse concerns of investors, employees, customers, and broader communities. Applying a double materiality lens broadens the analysis to include both financial outcomes and social or environmental impacts. Involving stakeholders directly in the SWOT process, through consultations with community leaders, environmental experts, or industry specialists, can yield critical insights into emerging risks and expectations. This participatory approach fosters trust and credibility, which in turn may translate into sustained customer loyalty, stronger investor confidence, and a more positive public image.

From a strategic standpoint, SWOT analysis supports the alignment of sustainability goals with both internal competencies and evolving external trends. By identifying organisational strengths and anticipating emerging opportunities, companies can initiate projects that deliver value across both economic and non-economic dimensions. For example, leveraging technological innovation to develop eco-friendly products can meet growing consumer demand while advancing the company's sustainability agenda (Dyllick and Muff, 2016). In this sense, SWOT-based planning ensures that sustainability is not treated as a parallel track but is embedded directly into the strategic core of the organisation.

Moreover, SWOT analysis contributes to improved risk management by helping companies identify and prepare for financial and non-financial threats. Recognising internal vulnerabilities, such as reliance on fossil fuels, or external risks like climate volatility enables firms to formulate forward-looking mitigation strategies. These strategies not only safeguard business operations but also reinforce a company's reputation for social responsibility and stakeholder responsiveness.

Finally, SWOT analysis aligns well with emerging sustainability reporting standards that emphasise double materiality, such as the ESRS and the GRI. Its structured format provides a logical foundation for identifying and communicating material issues across both ESG and financial domains. This coherence simplifies the reporting process, improves data comparability, and supports disclosures that are both relevant and transparent.

Despite its practical value, the application of SWOT analysis within the double materiality framework presents several challenges. These hurdles stem primarily from four key areas: the inherent subjectivity of the method, inconsistencies in ESG data quality, integration issues with other reporting standards, and the growing complexity of regulatory compliance.

One of the most significant concerns is the subjective nature of SWOT assessments. The identification of SWOT often relies on the judgments of internal stakeholders, which may introduce bias or inconsistencies. In some cases, organisations may unintentionally emphasise favourable attributes or downplay risks, particularly those that could impact stakeholder perceptions or corporate reputation. Within a double materiality framework, such biases can lead to skewed assessments, where financial considerations are prioritised over environmental or social impacts. For instance, while high greenhouse gas emissions may be acknowledged as an ESG risk, they might be given insufficient weight if their short-term financial implications are deemed minimal (Dyson, 2004). To mitigate this issue, organisations should consider involving external experts or stakeholder representatives in the evaluation process, fostering a more balanced and transparent approach.

Another major limitation involves the availability and reliability of ESG data. The effectiveness of SWOT analysis depends heavily on the use of accurate, comprehensive, and standardised data. Yet many companies struggle to gather consistent information on their social and environmental performance. This problem is exacerbated under the double materiality principle, which requires companies to assess not only the financial implications of ESG issues but also their broader societal and ecological effects (Barkemeyer et al., 2015). A lack of standardised ESG metrics across industries hampers both comparability and benchmarking. While some organisations may be practiced at tracking carbon emissions or energy consumption, others may lack systems for monitoring supply chain risks or labour practices (Hahn and Kühnen, 2013). Without reliable data, SWOT-based assessments risk overlooking critical sustainability concerns and producing incomplete disclosures.

A further challenge is the integration of SWOT analysis with existing sustainability reporting frameworks, such as GRI, TCFD, or SASB. These standards often provide detailed, domain-specific disclosure requirements that do not neatly align with the broader, generalised structure of SWOT. As a result, relying solely on SWOT may leave reporting gaps or fail to meet stakeholder expectations for granularity and precision. Companies may need to complement SWOT with other analytical tools, such as scenario planning or industry-specific key performance indicators, to ensure comprehensive coverage. However, adopting such hybrid approaches demands additional expertise, time, and resources.

Finally, the complexity of evolving regulatory frameworks – especially in jurisdictions like the European Union – poses another obstacle. The CSRD and ESRS, for example, mandate specific disclosures on climate-related impacts, labour practices, and human rights due diligence. Traditional SWOT analysis does not inherently capture this level of detail or regulatory alignment (European Commission, 2019). Staying compliant with such regulations requires continuous updating of internal systems and methodologies. This places an added burden on organisational capacity and may limit the utility of SWOT as a standalone assessment tool.

In summary, while SWOT analysis remains a valuable component in double materiality assessments, its effectiveness depends on overcoming several structural and operational challenges.

### **3 A practical framework for conducting SWOT analysis from a double materiality perspective**

SWOT analysis in a sustainability context systematically guides companies to improve collaboration with the internal and external stakeholders and create positive feedback channels to reveal new insights and information to help decision makers. Besides, a well-structured analysis reveals key findings that deserve attention and must be disclosed in the periodic sustainability reporting process.

A critical aspect of conducting an effective sustainability SWOT analysis lies in formulating and rigorously testing relevant questions that illuminate the dual impact of sustainability issues on both the organisation and its broader stakeholder ecosystem. This question-driven approach ensures that the analysis captures not only the direct effects on business operations, such as risks to revenue or supply chain stability, but also the indirect consequences for external stakeholders, including communities, suppliers, and

customers. By systematically generating and evaluating these questions across various analytical scenarios, organisations can uncover the interplay between internal capabilities and external pressures, revealing opportunities for innovation and collaboration while addressing vulnerabilities. This iterative process of questioning and testing ensures the SWOT moves beyond a static checklist and becomes a dynamic tool for uncovering transformative risks and opportunities, thereby driving meaningful strategic action and accountable reporting.

It is imperative to effectively build a sustainability SWOT analysis that identifies the stakeholder's awareness level on megatrends and metatrends that are transforming markets and creating new ways. A sustainability SWOT analysis should be built on a foundation that is both strategic and inclusive, extending beyond traditional business metrics to embed environmental, social and governmental considerations at its core. Preparing a robust sustainability SWOT for a sustainability report should include the key criteria:

- Sustainability philosophy
- Broad, collaborative, and inclusive scope
- Forward-looking and long-term perspective
- Big picture trends
- Value creation
- Risk assessment
- Action and strategic change
- Flexibility and adaptability.

A suitable framework for a sustainability SWOT analysis is proposed as a more dynamic, externally focused, and collaborative process. This framework inverts the traditional SWOT approach by starting with the external environment and then narrowing down to the firm's internal capabilities and actions. It is structured as below:

- 1 Understanding the context: environmental challenges and big trends: this is the foundational layer. The analysis begins by identifying major environmental challenges (e.g., climate change, water scarcity, biodiversity loss) and connecting them to other significant global trends (demographic, economic, technological, political). The goal is to understand the changing landscape in which the business operates.
- 2 External factors: threats and opportunities: based on the understanding of environmental challenges and trends, this step identifies broad threats to future business value. This includes not only direct threats to the company's operations but also indirect threats to suppliers, customers, and communities. This step looks for gaps where the company, in collaboration with others, can create new solutions to the identified environmental challenges. It focuses on turning threats into opportunities for innovation, cost reduction, or new revenue streams.
- 3 Assessing internal capabilities: strengths and weaknesses: here, the analysis considers the company's core competencies and how they can be unexpectedly applied to address environmental challenges. It also emphasises building these

strengths through partnerships. This step identifies the organisation's vulnerabilities and risks in the face of environmental challenges. A key aspect is to find other stakeholders who face similar weaknesses and could be potential partners in mitigating these risks.

- 4 Driving action: prioritise and act: the numerous insights from the analysis are filtered to identify that will be most influential for senior decision-makers. These are the insights that clearly link environmental challenges to core business drivers like revenue, costs, and risk. The final step is to develop a concrete action plan with near-term (next year), mid-term, and long-term objectives.

This structured model, which is particularly well-suited for sustainability reporting, is illustrated in Figure 3. The following structure and guiding questions can support a team in systematically generating content for sustainability reports through SWOT analysis.

### *Phase 1: Preparation and scoping (pre-sustainability SWOT)*

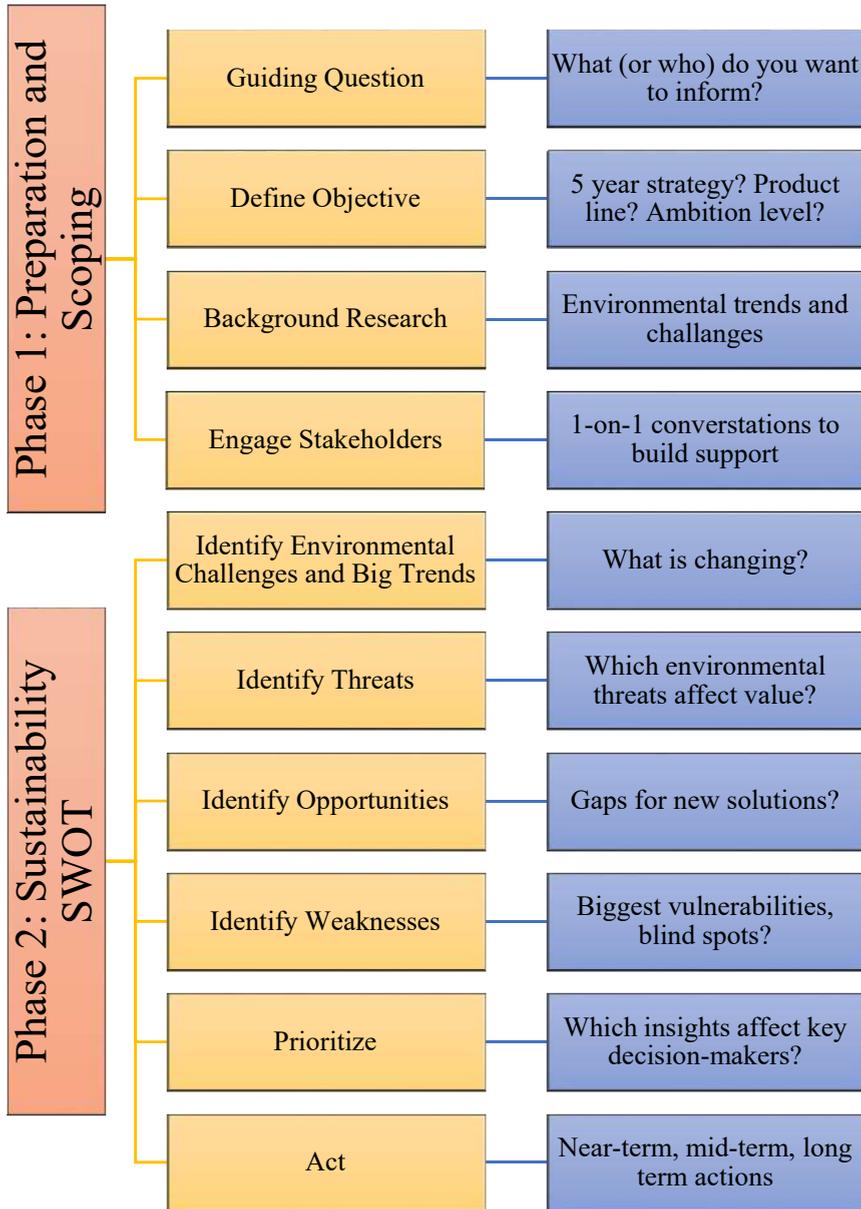
- Guiding question: what (or who) do you want to inform?
- Actions:
  - 1 Define the specific objective: Is it to inform a five-year strategy, assess a new product line, or answer a strategic question like 'is our sustainability strategy ambitious enough?'
  - 2 Conduct background research on relevant environmental trends and challenges.
  - 3 Engage key colleagues through one-on-one conversations to build support.

### *Phase 2: The sustainability SWOT analysis*

- Environmental challenges and big trends: what do you and others see changing?
- Threats: where are environmental challenges creating broad threats to future business value?
- Opportunities: where is there a growing gap where we and others can create new solutions for environmental challenges
- Strengths: what are unexpected ways we can apply our strengths to environmental challenges?
- Weaknesses: what are our biggest vulnerabilities, blind spots, or information gaps regarding environmental impacts? Who else has similar weaknesses or faces similar risks from environmental challenges?
- Prioritise: which insights will influence our senior decision-makers? Which findings link to key business drivers?
- Act: what can we do (together with partners) in the near-term, mid-term, and long-term?
  - 1 Near-term what immediate actions can be taken, such as briefing business units or gathering more data?

- 2 Mid-term: what pilot projects and partnerships can we explore to build a ‘bridge’ for the future?
- 3 Long-term: what are our priorities for long-range planning, monitoring, and investigation to build resilience against future threats?

**Figure 3** Structured sustainability SWOT model (see online version for colours)



By applying this framework, organisations can strengthen the objectivity, depth, and strategic relevance of their SWOT analyses within the context of double materiality. This

structured framework ensures compliance with regulatory standards (CSRD, ESRS) and effectively aligns organisational strengths with stakeholder expectations and sustainability goals. As such, the integration of structured diagnostic tools into materiality assessments offers a pragmatic path toward more meaningful and accountable sustainability reporting.

## 4 Results and discussion

This study has introduced a structured framework for embedding SWOT analysis within the double materiality perspective to improve both sustainability reporting and strategic planning. The findings point to a clear need for integrated tools that can connect conventional financial reporting with new sustainability disclosure standards, particularly those shaped by the CSRD.

Through the application of this framework, several observations emerged. Internally, organisations with strong ESG capabilities, ethical supply chain structures, and well-trained employees were found to be more prepared for tightening regulations and changing stakeholder expectations. At the same time, common weaknesses included insufficient investment in green innovation, limited stakeholder engagement, and underdeveloped biodiversity initiatives, which can restrict progress towards sustainability objectives.

External factors revealed a mixed picture. On one hand, there are promising opportunities, such as rising consumer demand for environmentally responsible products, growth in clean technology markets, and broader access to sustainable finance. These developments could help companies address their internal shortcomings through new partnerships or innovation pathways. On the other hand, threats such as climate-driven disruptions, stricter environmental regulations, resource scarcity, and evolving stakeholder pressures could challenge both financial stability and social legitimacy if left unaddressed.

In light of these patterns, four broad strategic responses can be considered in each possible SWOT outcome:

- **Strengths–opportunities (SO):** using core strengths, such as technical expertise or solid stakeholder relationships, to capitalise on opportunities in sustainability-focused innovation, renewable energy, and circular economy practices. This can help build competitive advantages while meeting environmental and social targets.
- **Strengths–threats (ST):** applying organisational strengths, for instance, robust governance structures and advanced R&D capabilities, to reduce or neutralise external threats such as policy changes, climate impacts, or resource constraints. This can reinforce resilience and protect long-term value.
- **Weaknesses–opportunities (WO):** leveraging emerging opportunities to address areas of weakness. For example, collaborating with industry peers, adopting best practices, or accessing public incentives can help close capability gaps in ESG performance.
- **Weaknesses–threats (WT):** where vulnerabilities and external threats coincide, defensive strategies may be needed. These might include strengthening monitoring

systems, engaging in sectoral partnerships, or contributing to standard-setting initiatives to prepare for future regulatory or environmental challenges.

Altogether, the framework encourages a more disciplined and transparent approach to sustainability assessments, in line with stakeholder expectations and regulatory standards. SWOT analysis, outlined through a double materiality lens, becomes more than a static diagnostic tool. It evolves into a dynamic element of strategic thinking that helps align financial and non-financial goals.

Given that sustainability reports are typically prepared on an annual basis, the SWOT questions themselves should also be reviewed and updated periodically to meet the developing circumstances. Evolving regulations, stakeholder demands, and broader market or societal shifts may alter the priority of material topics over time. Therefore, keeping these questions flexible and organically updated is essential to maintain a robust and future-oriented sustainability assessment.

Looking forward, the role of SWOT in double materiality assessments is likely to grow, particularly as organisations search for scalable and adaptable tools to navigate increasingly complex sustainability landscapes. New developments in data analytics, stakeholder engagement platforms, and integrated reporting technologies may further enhance their strategic relevance.

By embedding double materiality into SWOT practice, organisations can turn sustainability insights into concrete actions, improving their ability to anticipate risks, build resilience, and create long-term value for both shareholders and society.

Key outcomes of this study can be summarised as follows:

- When integrated with the double materiality perspective, SWOT analysis serves as a strategic bridge that helps align financial reporting with ESG performance.
- By encouraging periodic updates and active stakeholder engagement, the framework transforms SWOT from a static tool into a dynamic and evolving evaluation process.
- Ultimately, this approach offers a practical reference that can facilitate regulatory compliance, strengthen stakeholder trust, and promote more sustainable corporate governance.

Future studies should explore how the proposed framework performs across various sectors, such as energy, manufacturing or textiles, where material ESG issues often differ in scope and intensity. Empirical applications can help refine the tool, revealing sector-specific nuances and enhancing its operational value.

## 5 Conclusions and recommendations

In order to enhance the effectiveness of SWOT analysis within the double materiality context, the following practical key considerations are offered:

- 1 Embed stakeholder insights: involving a wide array of stakeholders, from internal teams and investors to community representatives and advocacy groups, can broaden the perspective of the SWOT analysis, and, consequently, the sustainability report. Doing so ensures that less visible but significant social and environmental issues are recognised and promotes a more transparent and inclusive assessment process.

- 2 Prioritise ESG data integrity: high-quality ESG data is vital for conducting reliable assessments. Investing in a robust data system reduces the risk of bias and strengthens the credibility of the resulting materiality insights.
- 3 Leverage existing reporting standards: embedding SWOT analysis into internationally recognised frameworks creates a more coherent and comprehensive reporting process. This hybrid approach enhances consistency and supports regulatory alignment.
- 4 Stay proactive in regulatory adaptation: as reporting standards continue to evolve, organisations must regularly update their SWOT assessments to reflect new materiality definitions and disclosure obligations.
- 5 Build internal capacity and neutral evaluation skills: empowering teams with ESG training and cross-functional collaboration skills can help minimise internal bias and foster more balanced evaluations.

While the proposed framework offers a solid foundation, organisations must tailor it to their specific sector, strategic priorities, and stakeholder expectations to ensure its practical relevance. As sustainability regulations continue to tighten, tools like SWOT analysis, when rooted in the principles of double materiality, are no longer optional. They represent a critical component of forward-looking corporate governance. This study contributes to the evolving literature by presenting a practical, stakeholder-involved framework that aligns strategic decision-making with regulatory compliance, offering organisations a robust path toward long-term legitimacy and sustainability.

## Declarations

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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