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Double Materiality:

An analysis of the practices adopted by Spanish companies that have prepared the statement of non-financial information in 2024 according to the ESRS, problems detected, and suggestions for simplification

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DOUBLE MATERIALITY: AN ANALYSIS OF THE PRACTICES ADOPTED BY SPANISH COMPANIES THAT HAVE PREPARED THE STATEMENT OF NON-FINANCIAL INFORMATION IN 2024 ACCORDING TO THE ESRS, PROBLEMS DETECTED, AND SUGGESTIONS FOR SIMPLIFICATION

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List of
sections



SECTION 1 Introduction	9
SECTION 2 Comparative analysis of sustainability reports by organisation type: SMEs, cooperatives, foundations and public administrations	17
SECTION 3 Theoretical framework and literature review	23
SECTION 4 Justification and contextualisation of the Delphi method	31
SECTION 5 Delphi analysis	35
SECTION 6 Conclusions	55
SECTION 7 Proposed regulatory guidelines for ICAC regarding the implementation of the double materiality framework	58
SECTION 8 Limitations of the study	60
SECTION 9 Future lines of research	61
SECTION 10 Bibliography	62
SECTION 11 Annexes	65

Table of Contents

Towards an extended methodological framework for materiality analysis in sustainability reporting	9
1. Introduction	9
1.1. The European regulatory context and transition to sustainable accountability	9
1.2. The relevance of materiality analysis	11
1.3. The methodological problem: between the objectivity of impacts and the subjectivity of perceptions	12
1.4. Biases in double materiality analysis	13
1.5. Research objective and hypothesis	15
2. Comparative analysis of sustainability reports by organisation type: SMEs, cooperatives, foundations and public administrations	17
2.1. Introduction	17
2.2. Comparative results	20
2.3. Discussion and key points for interpretation	20
2.4. Conclusions and recommendations	21
2.5. Practical implications	21
2.6. Final thoughts on ESRS standards	22
3. Theoretical framework and literature review	23
4. Justification and contextualisation of the Delphi method	31
4.1. Theoretical background and relevance of the method	31
4.2. Design and structure of the process	31
4.2.1. Selection of experts	32
4.2.2. Phases of the Delphi process	33
4.3. Expected methodological contribution	34
5. Delphi analysis	35
5.1. Delphi Study Round 1	35
5.1.1. Brakes	35
5.1.2. Accelerators	36
5.1.3. Weaknesses	37
5.1.4. Proposals for Improvement	38
5.1.5. Round 1 Summary	39
5.2. Delphi Study Round 2	40
5.2.1. Quantitative Results	40
5.2.2. Qualitative Results	43
5.2.3. Examples	44
5.3. Delphi Study Round 3	46
5.3.1. Qualitative results of Round 3	46
5.4. Biases identified in the double materiality process	52
5.4.1. Self-scoping bias	52
5.4.2. Representativeness or convenience bias	52
5.4.3. Confirmation bias	53
5.4.4. Checklist bias	53
5.4.5. Financial or economic bias	53
5.4.6. Methodological ranking bias	53
5.4.7. Strategic omission bias	53

6. Conclusions	55
6.1. From materiality as compliance to materiality as strategic governance	55
6.2. Social accounting as a tool for mainstreaming and standardisation	55
6.3. Broadening the dialogue: Stakeholders, Shapeholders and Non-Stakeholders	56
6.4. Towards a framework of intrinsic impact values	56
6.5. Practical projection and future agenda	57
6.6. Towards a discursive materiality of value	57
7. Proposed regulatory guidelines for ICAC regarding the implementation of the double materiality framework	58
8. Limitations of the study	60
9. Future lines of research	61
10. Bibliography	62
10.1. Legal and technical references	64
11. Annexes	65
Annex 1. Questions used in the Delphi study	65
Annex 2. From indicators to materiality: regulatory developments in the European sustainability framework (2022-2025)	67
Annex 3. Research hypotheses: conceptual pillars of the materiality analysis	68
Annex 4. Delphi Study Round 1: Brakes identified	69
Annex 5. Delphi Study Round 1: Accelerators identified	70
Annex 6. Delphi Study Round 1: Weaknesses identified	71
Annex 7. Delphi Study Round 1: Improvements to the traceability process in double materiality analysis	72
Annex 8. Delphi Study Round 2: Summary of categories and evidence – Delphi Study Round 2	73
Annex 9. Qualitative analysis of problems in the application of double materiality	74
Annex 10. Summary of qualitative results – Delphi Study Round 3	75
Annex 11. Biases observed in the double materiality analysis (Delphi study summary)	76
Annex 12. Main findings of the study on double materiality	77
Annex 13. Proposals to the ICAC to boost the regulation and application of double materiality analysis	78

List of tables and figures

Table 1: Entities analysed	18
Table 2: Information on the experts	33
Graph 1: The importance of brakes	41
Graph 2: The importance of accelerators	41
Graph 3: The importance of accelerators	42
Graph 4: The importance of improvements	42

1 Introduction

1.1. The European regulatory context and transition to sustainable accountability

The adoption of Directive (EU) 2022/2464 of the European Parliament and of the Council, known as the Corporate Sustainability Reporting Directive (CSRD), marks a turning point in the history of corporate reporting in Europe. By replacing the previous Non-Financial Reporting Directive 2014/95/EU (NFRD), the CSRD significantly expands the scope, accuracy and enforceability of sustainability reporting. Its purpose is to transform sustainability reporting into a comprehensive accountability tool, one that is comparable in rigour and verifiability to financial reporting.

This change responds to a structural shift in EU policies, placing sustainability at the heart of competitiveness and economic governance. Documents such as the European Green Deal (European Commission, 2019), the Action Plan on Financing Sustainable Growth (2018) and the Renewed Sustainable Finance Strategy (2021) have set out a coherent narrative: financial capital must be aligned with the climate, social and ethical objectives of the ecological transition. Within this framework, the CSRD is the reporting foundation of the system, as it seeks to ensure that investors, administrations and the public have reliable, comparable and relevant information on entities' impact on society and the environment.

The technical implementation of the Directive is established in the European Sustainability Reporting Standards (ESRS), drawn up by the European Financial Reporting Advisory Group (EFRAG). ESRS 1 and 2, adopted by the European Commission in July 2023, define the general principles and cross-cutting structure of the new reporting model. Its distinctive feature is the adoption of the principle of double materiality, which requires entities to report both the external impacts (impact materiality) of their activities and the financial risks and opportunities (financial materiality) arising from environmental, social and governance factors (ESRS 1, 53-61).

This principle not only introduces a new information architecture, but also redefines the epistemological logic of corporate accounting: value is no longer measured exclusively in terms of economic profitability, but also in terms of social contribution and environmental sustainability. The CSRD thus makes materiality analysis the backbone of the system, as the selection of the topics to be reported by each entity, the hierarchy of indicators, and ultimately, the credibility of the information presented depend on its outcome.

However, the true transformational scope of the CSRD can only be understood when analysed in relation to two other legislative instruments that make up the EU's emerging regulatory ecosystem: the Corporate Sustainability Due Diligence Directive (CSDDD) and the 2024 "Omnibus" Delegated Act, which amends the first implementation of the European Sustainability Reporting Standards (ESRS).

The CSDDD, approved by the European Parliament in April 2024, introduces a principle of extended corporate responsibility that extends beyond information transparency into the realm of legal obligations to prevent, mitigate and remedy negative human rights, environmental and governance impacts. While the CSRD regulates what companies must report, the CSDDD regulates what they must do to ensure sustainable operations and supply chains. This law imposes an obligation on large European companies and foreign subsidiaries operating within the single market to implement effective due diligence processes along their entire value chain, with penalties for non-compliance.

The link between the two directives is deep and complementary. On one hand, the CSRDD provides the reporting framework that documents the actions and results of due diligence; on the other hand, the CSDDD establishes the substantive duty that endows ethical and operational content to the published information. In this regard, the impact materiality required by the ESRS becomes the methodological link between the two standards: materiality analysis is no longer a mere diagnostic exercise but a compliance tool, as it identifies the risks to be actively managed by companies under the CSDDD.

The integration of both standards poses a considerable challenge for Spanish organisations, especially SMEs and social enterprises, which are often indirectly involved in supply chains subject to due diligence. Although not directly bound by the CSDDD, they will be affected by the contractual requirements of their partners or larger customers, which increases the need for robust, verifiable and adaptable materiality systems. In this sense, due diligence acts as an indirect regulatory lobbying mechanism that expands the impact of CSRD beyond the companies formally covered by it (Renda & Schrefler, 2023).

To this expansion of the regulatory framework may be added, in the other direction, the October 2024 publication of the "Omnibus" Delegated Act, by which the European Commission amends and simplifies the initial application of the ESRS (OJEU L 2024/218). This text introduces substantial adjustments aimed at reducing the administrative burden for businesses, especially small and medium-sized enterprises. The main amendments include the following:

1. Reduction in the number of mandatory disclosures for the first reporting cycle (2025-2026).
2. The conversion of certain quantitative metrics into voluntary or progressive requirements.
3. The relaxation of double materiality, allowing certain entities to apply proportionality criteria to omit information that is not relevant to their size or sector.

While this revision responds to a legitimate demand for simplification, several authors have warned that lowering requirements risks eroding the consistency and comparability of the system (EFRAG, 2024; KPMG, 2024). In particular, reducing the mandatory scope of indicators may reintroduce the subjective bias that the CSRD sought to overcome: by granting more discretion to companies when defining the relevance of issues, it increases reliance on their own perceptions and communication strategies.

The combined impact of both moves - the ethical extension stemming from the CSDDD and the technical relaxation of the Omnibus Act - creates a structural tension within the European regulatory architecture. On one hand, due diligence reinforces the substantive accountability of companies, promoting binding and operational sustainability; on the other hand, the Omnibus tends to soften formal accountability, easing the reporting burden and reducing the scope of information required. Consequently, the balance between legal compliance, information transparency and methodological consistency becomes a crucial issue for the future of corporate accountability in Europe.

From the Spanish perspective, this tension is projected onto an institutional framework that is still in the process of consolidation. The draft Royal Decree transposing the CSRD (Ministry of Economy, 2024) maintains the ESRS structure, but incorporates proportionality clauses and a future guideline for adaptation geared towards SMEs and non-profit entities. This "nationalisation" of the European framework therefore requires an additional effort of interpretation and methodological systematisation. Within this context, materiality analysis becomes not only a technical tool, but also an instrument of governance, capable of integrating different levels of requirements - informational, operational and ethical- that arise from the new European regulatory framework.

1.2. The relevance of materiality analysis

Within this new regulatory framework, materiality analysis has become the operational core of corporate sustainability. Its function is two-fold: firstly, to identify the relevant issues that pose significant impacts or risks to organisations; and secondly, to prioritise them according to their magnitude, scope and urgency.

The most novel aspect of the CSRD and ESRS is that materiality is no longer an optional or communicative procedure, rather a structural requirement: all reporting decisions must be based on a systematic and documented process of materiality identification. In the words of EFRAG (2023), materiality constitutes "the cornerstone of the sustainable reporting process, as it determines the content and scope of the required disclosures".

When the European Commission launched the Corporate Sustainability Reporting Directive (CSRD), the initial aim was to provide the European Union with a common sustainability reporting framework that would ensure consistency, comparability and reliability across companies. In the first phase of the process, the technical drafts produced by the European Financial Reporting Advisory Group (EFRAG) in 2022 and early 2023 were geared towards a reporting model structured around pre-determined indicators. The underlying rationale was to ensure a common reporting language that would allow the performance of entities to be assessed through a uniform set of environmental, social and governance (ESG) metrics.

These early texts—prior to the formal adoption of the European Sustainability Reporting Standards (ESRS)—were criticised for their volume and complexity: more than 1,100 data points ("datapoints") and an extensive list of quantitative and qualitative requirements that many companies considered excessive. In such a scenario, the risk was that sustainability would become a compliance exercise rather than a tool for management and transformation.

After receiving technical advice from EFRAG, the European Commission decided to substantially modify the approach before adopting the final standards. Delegated Regulation (EU) 2023/2772, which formally adopts the first set of ESRS (Set 1), makes this change of orientation explicit:

"To ensure proportionality and to facilitate the correct application of the standards by undertakings, the Commission has introduced modifications to EFRAG's technical advice as regards the materiality approach, the phasing-in of certain requirements, the conversion of certain requirements into voluntary datapoints, [and] the introduction of flexibilities..." (Delegated Regulation (EU) 2023/2772, Recital 8).

This paragraph marks a turning point in the regulatory architecture. Rather than imposing a closed catalogue of indicators applicable to all entities, the Commission has made materiality analysis the prior and decisive process for selecting the topics and metrics to be reported. Materiality assessment thus becomes the "gateway" to the sustainability report. ESRS 1 - General Requirements, paragraph 53, makes this clear:

"Materiality assessment is the starting point for sustainability reporting under ESRS". (ESRS 1, §53).

The direct consequence of this formulation is that no entity is obliged to report all indicators proposed by the ESRS, but only those that are material in light of its own impact, risk and opportunity analysis. The only reporting block that remains universal and mandatory for all organisations is that of ESRS 2 - General Disclosures, which includes the basic sections on governance, strategy, impact management and general metrics (EFRAG, 2023).

Thus, the final regulatory scheme adopts a two-tiered logic:

1. A fixed core of general information (ESRS 2).
2. A variable set of thematic disclosures (environmental, social and governance) determined by the outcome of the materiality analysis.

This redesign responds to the principle of proportionality advocated by the Commission, with the aim of tailoring the requirements to variable sizes, sectors and business realities within the single market. In practice, materiality becomes the "master filter" that structures the report: each company must justify which issues it has considered relevant, the criteria followed to determine them, and why certain indicators are omitted.

The introduction of the simplification package known as the "Omnibus Delegated Act", published in October 2024, reinforces this trend. The new delegated act reduces some 57% of mandatory data points and introduces a simplified double materiality procedure for small and medium-sized enterprises (European Commission, 2024). According to the explanatory memorandum itself, the aim is to "simplify and streamline the sustainability reporting process, without compromising the core principle of materiality".

However, this simplification has led to debate among experts and supervisory bodies. While it is necessary to reduce the administrative burden, some reports warn of the risks that flexibility may translate into discretionality. The European Securities and Markets Authority (ESMA), in its *Findings on Materiality Assessment Processes* (2024) recommends that companies should explain in detail "how they adapt the materiality concepts and steps defined in ESRS 1 to their specific facts and circumstances", so that the process maintains traceability and analytical rigour.

In short, the European legislative process has progressively shifted the centre of gravity of sustainable accountability. The focus is no longer on the mere application of a uniform set of indicators, but on the ability of each entity to identify, justify and manage its material issues. Materiality, rather than a technical requirement, has become the operational principle that structures the narrative, selects the indicators, and legitimises the relevance of the information.

However, the practical application of the materiality analysis has revealed profound conceptual and methodological difficulties. Specialised literature on the subject (Manetti, 2011; Boiral & Henri, 2017; Jones et al., 2019) agrees that materiality has become a polyvalent and ambiguous notion, whose meaning varies according to the type of entity, the sector and the organisational culture. In practice, many companies address materiality through participatory processes based on stakeholder surveys, where the relevance of the issues is determined by subjective perceptions rather than empirical impact analysis.

This subjective approach to the process leads to inconsistencies and weakens comparability between reports. Occasionally, materiality matrices are used more as legitimisation tools –to demonstrate dialogue with stakeholders– than as real strategic diagnostic instruments. The lack of clear regulatory criteria on the identification, weighting and assessment of impacts hinders the consistency of results and limits the usefulness of the report as a basis for decision-making (Adams & Abhayawansa, 2021).

1.3. The methodological problem: between the objectivity of impacts and the subjectivity of perceptions

The central problem lies in the lack of methodological consensus on how to implement the materiality analysis. Despite regulatory advances, there are still epistemological gaps when it comes to defining and measuring impacts. In practice, exogenous impacts –the effects of the entity upon the environment– tend to be anticipated through predefined indicator catalogues (e.g. GRI taxonomies or SDG targets), while endogenous impacts –effects of the environment upon the entity– lack a systematic identification and assessment procedure.

This methodological asymmetry leads to a paradox: the most innovative component of CSRD (double materiality) is also its most indeterminate dimension. The result is a scenario where entities prioritise the impacts they can control, but relegate those that rely on structural, social or institutional dynamics. Furthermore, the lack of validation mechanisms runs the risk of materiality becoming a "black box" where decisions regarding what is reported are justified internally without traceability and external evidence.

Within the context of Spain, this problem takes on a special dimension. SMEs and smaller entities make up more than 95% of the business sector, which lack the resources to implement complex participatory methodologies. In many cases, materiality is reduced to a formal adaptation of international guidelines, with no real analysis of local or sectoral impacts. This is compounded by an organisational culture that is still focused on financial management, with sustainability being perceived more as a regulatory obligation than as a strategic opportunity (Aranguren et al., 2020).

From a cultural and academic perspective, the challenge is to develop methodologies that recognise the institutional and cultural diversity of the stakeholders involved. The European participatory model starts from a context of advanced governance, but its translation to the Mediterranean area –characterised by family businesses, a less associative tradition and less formalised governance– requires contextual adaptation (Delgado-Ceballos & Montiel, 2019).

1.4. Biases in double materiality analysis

Double materiality analysis, although conceived of in the regulations as an objective, two-way process, is still heavily mediated by influenced by organisational decisions, interests and perceptions. Without external verification mechanisms, critical participation and methodological traceability, materiality risks becoming a self-referential and reputational exercise rather than a true governance and accountability tool.

One of the main risks observed in the practical application of materiality analysis is the self-referentiality of the process. In many sustainability reports –including those prepared under GRI frameworks or the first adaptations of the ESRS– it is the companies themselves who define "potentially relevant" issues in advance and, on the basis of this closed list, invite stakeholders to weigh them up by means of questionnaires or surveys. Although this practice is presented as a participatory exercise, in reality, it is a form of conditional participation, where stakeholders can only validate or prioritise issues that the organisation has deemed worthy of consideration in advance. As a result, the process is more akin to a controlled ratification than a true deliberation on impacts.

The underlying epistemological problem is that the initial selection of material issues is excluded from the process of participatory scrutiny. Uncomfortable, controversial or structurally negative issues may be excluded at the very onset, thus distorting the representation of real impacts. In methodological terms, this amounts to a double asymmetry: the entity defines both the universe of issues and the mechanisms for their valuation, and stakeholders operate within these set margins. Such a design introduces an institutional confirmation bias, where consultation becomes an instrument of legitimisation rather than discovery.

Several authors have warned of this "performative" drift in stakeholder dialogue. Manetti (2011) notes that, in many cases, "stakeholder engagement has become a symbolic process more geared towards gaining legitimacy than generating critical knowledge regarding impacts". Similarly, Boiral and Henri (2017) describe the phenomenon as "pseudo-participation", which maintains the inclusiveness of the process in form but empties it of deliberative content.

From the point of view of European standards, this practice contradicts the spirit of the principle of double materiality formulated in ESRS 1, which requires companies to identify significant impacts "considering both their own operations and the perspectives of affected stakeholders" (ESRS 1, 64). In other words, it is not enough to consult on what has already been decided, the process must also allow external perceptions to influence how the selection of relevant issues is defined. Materiality, according to European regulatory logic, cannot be an introspective exercise but a process of dialogue and iteration, in which the judgement of affected groups actively contributes to shaping the contents of the report.

Therefore, the current methodological challenge is to overcome this participatory asymmetry and move towards more open models of materiality, where stakeholders not only weigh, but also propose, discuss and co-evaluate material issues. Only then can materiality analysis fulfil its transforma-

tive function: from being a corporate reporting mechanism to becoming a real tool for shared governance and institutional learning. Unfortunately, we lack a sufficiently developed and standardised process to carry out this dialogue.

Another major shortcoming of corporate materiality analyses is the unilateral identification of stakeholder representatives by the companies themselves. In most cases, the organisation defines the representatives of stakeholder groups, without a transparent or verifiable procedure. This means that consulted stakeholders tend to be convenient or institutionally close points of contact –customers, suppliers, industry associations, select employees or partners– which leads to confirmation bias and diminishes the diversity of perspectives. The result is that dialogue takes place within a controlled scope, with actors that share interests or are subordinate to the entity, while divergent or critical voices, such as independent trade unions, social collectives or communities indirectly affected by the operations, are excluded.

This phenomenon compromises the epistemological and ethical legitimacy of the participatory process. As Greenwood (2007) warns, the credibility of stakeholder engagement depends less on the number of actors involved than on the authenticity and plurality of the voices included. When the selection is based on instrumental logic –seeking to validate pre-existing decisions or to boost corporate reputation– the process becomes an exercise in simulated governance. In practice, many companies confuse "representativeness" with "accessibility": they choose those who are already institutionally close or easy to contact, rather than those who reflect the true diversity of affected parties.

The subjective identification of stakeholders has both methodological and ethical effects. At the methodological level, selection bias distorts the results of the materiality analysis: the issues that are prioritised reflect the interests of a narrow subset of actors rather than those of the entire ecosystem of affected parties. Ethically, this mechanism reinforces the power asymmetry between the organisation and its stakeholders, reproducing hierarchical structures rather than promoting a genuinely democratic dialogue. As O'Dwyer and Unerman (2016) point out, corporate sustainability risks converting into "moral performance" –a staging of responsibility– if critical voices are neutralised through participatory processes that are designed to appear inclusive.

ESRS 1 attempt to counter this practice by requiring companies to identify stakeholders, emphasising that the assessment should include not only those who have a contractual relationship, but also those who may be materially affected by the entity's activities, even outside its immediate chain. However, in practice, the absence of verifiable criteria on how to select and validate representatives leaves ample room for corporate discretion. A truly robust materiality analysis must therefore include mechanisms for external verification and deliberative plurality, ensuring that the groups involved reflect the true diversity of interests, weaknesses and contexts in which the organisation operates.

Based on these general biases, some specific problems to be addressed may be identified: 1) Pre-dominance of subjectivity: prioritisation is dependent on stakeholder perception, without sufficient empirical contrast. 2) Unilateral anticipation of exogenous impact: entities define relevant issues in advance. 3) Diffuse attribution of endogenous impact: it is not known who evaluates it and how it is measured; and it is occasionally conflated with certain financial indicators. 4) Lack of sectoral and typological adaptability: SMEs, cooperatives, foundations or public administrations lack tools that are adapted to their scale. 5) A defensive view of impact: minimising impact rather than maximising positive potential. 6) Lack of cross-cutting indicators: disconnect between sustainability and social, environmental or human capital accounting.

1.5. Research objective and hypothesis.

The general objective of this paper is to propose a methodological framework for to improve the validity and applicability of materiality analysis by integrating objective impact criteria and verifiable participatory mechanisms. It especially seeks to explore a reproducible model that combines the structural analysis of impacts (exogenous) with the deliberative evaluation of perceptions (endogenous), and which may be applied to different entity types –companies, cooperatives, foundations and public administrations– within the Spanish context.

The methodological approach is based on a Delphi analysis conducted with sustainability experts, its goal being to reach minimum consensus on the criteria, indicators and processes required to systematise the materiality analysis. This tool makes it possible to compare different sectoral perspectives and to correct the current lack of methodological convergence between regulatory, corporate and academic approaches.

As a starting hypothesis, it poses that materiality as it stands today is overly dependent on both the interests of companies and the subjective perception of stakeholders, leading to inconsistent results and an incomplete view of sustainability. Structural impacts, especially those of a social or institutional nature, which are beyond the direct control of organisations, but determine their long-term performance, are not sufficiently incorporated. The study sets out, in an exploratory manner, to test the following hypotheses:

1.5.1. Hypothesis regarding methodological asymmetry (exogenous vs. endogenous impact):

It is postulated that there is a systematic asymmetry between the identification of exogenous impacts –anticipated and defined by the entity– and the evaluation of endogenous impacts –diffuse, poorly analysed and without clearly responsible agents for their assessment–. This methodological gap limits the consistency of double materiality and reduces the ability of the report to capture the interdependence between the organisation and its environment.

1.5.2. Hypothesis regarding institutional disproportionality:

It is suggested that the degree of methodological maturity and availability of resources to implement ESRS varies significantly depending on entity type. SMEs, cooperatives, foundations and public administrations especially have greater difficulties in implementing rigorous materiality processes due to the lack of adapted guidelines, technical capacity, and differentiated sectoral criteria.

1.5.3. Hypothesis regarding defensive impact management bias:

It is argued that most organisations interpret exogenous impact negatively –as a risk to be minimised or controlled– and not as an opportunity for value creation or social transformation. In parallel, endogenous impact tends to be confused with ordinary internal management, which reduces its potential for institutional learning and strategic change.

1.5.4. Hypothesis regarding cross-cutting insufficiency of indicators:

It is argued that the indicator systems currently in use lack cross-cutting relevance between economic, social and environmental dimensions, which prevents a holistic view of sustainability. It is proposed that this limitation may be mitigated by integrating tools for social accounting and non-financial value measurement, which are capable of translating impacts into verifiable terms of contribution to the common good.

1.5.5. Hypothesis regarding financial tunnel vision in internal materiality:

It is argued that in endogenous materiality analysis –that is, the study of environmental impacts on the organisation– there is a tunnel vision effect or interpretative fallacy in assuming that the interest of any organisation is limited to the effects upon its economic or financial results. This approach is derived from a conventional business model that is focused on shareholder value, rather than on the plurality of purposes, missions and institutional forms in the economy.

1.5.6. Hypothesis regarding the need for analytical and participatory convergence:

A double methodological integration is required to improve materiality analysis: 1) Participatory, by including the perceptions and values of relevant stakeholders and thus ensuring their representativeness and plurality; 2) Analytical, by using objective indicators, open data and social and environmental accounting frameworks; ones that are preferably transferable to homogeneous units enabling cross-cutting analysis (social accounting). A combination of both approaches would lead to an expanded notion of materiality, one that reflects not only what organisations do or report, but also what they mean, transform and generate in terms of social, environmental and cultural value. Ultimately, the objective is to contribute to the transition from a formal and defensive materiality to a strategic and relational materiality, which will function as a true bridge between regulatory compliance and sustainable value creation.

2 Comparative analysis of sustainability reports by organisation type: SMEs, cooperatives, foundations and public administrations

2.1. Introduction

The implementation of European corporate sustainability standards stands at a critical juncture. Following the EU's approval of the Corporate Sustainability Reporting Directive (CSRD) and its deployment through the European Sustainability Reporting Standards (ESRS), double materiality analysis has emerged as the methodological cornerstone for preparing sustainability reports. However, the adoption of this approach differs substantially according to the type of organisation, its structure, legal nature and institutional logic. This preliminary study examines the reality of sustainability reporting in four organisation types –SMEs, cooperatives, foundations and public administrations– based on a sample of different types of entities.

The objective of this pilot study is to identify how organisational type influences the maturity of the double materiality analysis and how ESG impacts and risks are reported. By doing so, it seeks to propose methodological improvements that are tailored to different institutional realities. Based on this preliminary analysis, it hopes to generate and guide the questions to be used in the Delphi study. The analysis has been conducted on the basis of the sustainability reports of the following entities.

//// TABLE 1 Entities analysed

Code	COMPANY NAME	LOCATION	TYPE	Staff	SECTOR	REPORT NAME	DM
E1	Mayoral	Malaga	Large but unlisted	2000	Textile	Non-financial report	0
E2	Previsora General Mutualidad De Prevision Social Mps	Barcelona	Mutual insurance. Not obliged	<50	Insurance, Reinsurance and Pension Funds,	Sustainability Report	3
E3	Sleep'N Atocha	Madrid	Not obliged	26	Hospitality	Sustainability Report	0
E4	X-Elio	Madrid	Not obliged	243	Energy	Sustainability Report	2
E5	Sociedad Festival Internacional de Cine de Donostia	San Sebastian	Not obliged	58	Leisure	Sustainability assessment and carbon footprint measurement report	0
E6	Pharmadus Botanicals	Leon	Not obliged	33	Food and beverages	Sustainability Report	2
E7	Original Buff	Barcelona	Not obliged	362	Textile	Sustainability report	3
E8	Indcresa	Barcelona	Not obliged	186	Cocoa	Sustainability Report	3
E9	Recreativos Acuáticos Horadada	Alicante	Not obliged	<25	Leisure	Sustainability Report	3
E10	Hilaturas Ferre	Alicante	Not obliged	95	Textile	Sustainability Report	3
E11	Vytrus Biotech	Barcelona	Not obliged	37	Cosmetic biotechnology	Sustainability Report	3
E12	Ecoalf	Madrid	Not obliged	197	Textile	Sustainability Report	2
E13	Hotel La Isla y el Mar	Lanzarote	Not obliged		Hospitality	Sustainability Report	0
E14	Montajes Delsaz	Madrid	Not obliged	192	Architecture	Consolidated Statement of Non-Financial Information and Diversity	5
E15	Electrónica y Comunicaciones Noroeste	A Coruña	Not obliged	80	Electronics	Sustainability Report	3
C1	ACOR	Valladolid / Olmedo	Cooperative	400	Agri-food	Sustainability Report	YES
C2	COPRECI	Aretxabaleta (Gipuzkoa)	Cooperative	≈2000	Componentes Línea Blanca	Sustainability Report	NO
C3	LABORAL Kutxa	Arrasate-Mondragón (Gipuzkoa)	Cooperative	≈3 000	Cooperative Banking	CSR Report	Yes
C4	LABORAL Kutxa	Arrasate-Mondragón (Gipuzkoa)	Cooperative	≈2 000	Cooperative Banking	Sustainability Report	Yes
C5	Mondragón Assembly	Aretxabaleta (Gipuzkoa)	Cooperative	≈650	Industrial Automation	Sustainability Report	Yes
C6	Udapa	Vitoria-Gasteiz (Alava)	Cooperative	≈200	Agri-food (Potato)	Sustainability Report	Yes
C7	Anecoop	Valencia	Cooperative	574	Fruit & vegetable produce	Non-Financial Statement	Yes
C8	Cofares	Madrid	Cooperative	≈3 000	Pharmaceutical Distribution	Sustainability Report	Yes
C09	DCOOP S. Coop. And.	Antequera (Malaga)	Cooperative	907	Agri-food (oil, wine, dairy products)	Annual Sustainability Report	No
C10	Grupo Fagor	Arrasate-Mondragón (Gipuzkoa)	Cooperative	10403	Industrial Diversified	Sustainability Report	Yes
C11	Orbea S. Coop.	Mallabia (Biscay)	Cooperative	1000	Bicycle manufacturing	Non-Financial Statement	Yes

Code	COMPANY NAME	LOCATION	TYPE	Staff	SECTOR	REPORT NAME	DM
C12	Cooperativa Dos Pinos R.L.	San José (Costa Rica)	Cooperative	5817	Dairy and food	Sustainability Report	Yes
C13	EROSKI	Elorrio (Biscay)	Cooperative	≈27 000	Retail distribution	Non-Financial Statement	Yes
C14	ORONA	Hernani (Gipuzkoa)	Cooperative	≈6 100	Elevators	Sustainability Report	Yes
C15	Agrupación Navarra S.Coop. (AN)	Villafranca (Navarre)	Cooperative	1574	Agri-food	Sustainability Report	Yes
F1	Ecovidrio	Madrid	Foundation	58	Recycling (glass)	Sustainability Report	2
F2	Cristina Enea	San Sebastian	Foundation	6	Environmental sustainability	Annual Sustainability and Climate Report	0
F3	CIRCE, Centro Tecnológico	Zaragoza	Foundation	290	R&D&I	Sustainability Report	3
F4	Fundación ONCE	Madrid	Foundation	772	Social inclusion for people with disabilities	Contribution of the ONCE Foundation to the Sustainable Development Goals during the year	3
F5	DFA Fundación	Zaragoza	Foundation	782	Social inclusion for people with disabilities	Sustainability Report	4
F6	Aigües de l'Horta	Torrent (Valencia)	Foundation	56	Water cycle management in the region of l'Horta (Valencia)	Sustainable Development Report	3
F7	Fundación BBK	Bilbao	Bank foundation	411	Bank foundation	Sustainability Report	5
F8	DIRSE	Madrid	Foundation	3	Professional Association (Sustainability Managers)	Sustainability Report	5
F9	Fundación La Caixa	Barcelona	Bank foundation	459	Bank foundation	Sustainability Report	4
F10	Alboan	Bilbao	Foundation	47	Cooperation for development	Environmental and sustainable resource improvement management system	2
AP1	Redeia (Red Eléctrica)	Madrid	Public company	2,489	Energy	Sustainability Report	5
AP2	Aena	Madrid	State-owned company	10,500	Transport	Consolidated Statement of Non-Financial Information and Sustainability Reporting	4
AP3	Renfe	Madrid	State-owned company	14,000	Transport	Statement of non-financial information	3
AP4	Correos	Madrid	State-owned company	50,200	Logistics	Integrated annual report	3
AP5	Metro de Madrid	Madrid	State-owned company	7,324	Transport	Sustainability Report	3
AP6	Emulsa	Gijón	State-owned company	735	Environment	Sustainability Report	2
AP7	Canal Isabel II	Madrid	State-owned company	3,000	Water	Sustainability Committee Report	1
AP8	Basauri City Council	Biscay	City Council	480	Municipality	Energy Sustainability Report	1
AP9	Observatorio Transporte y Logística (OTLE)	Madrid	Public body	4,700	Transport / Logistics	Annual report	1
AP10	Donosti City Council	Donosti	City Council	2,738	Municipality	Annual Sustainability Report	1

2.2. Comparative results

2.2.1. Level of maturity of double materiality

The preliminary quantitative analysis of a representative sample displays significant differences between the organisations assessed:

- SMEs are characterised by an average maturity level of nearly 0-1, indicating a non-existent or superficial use of double materiality.
- Cooperatives display intermediate values (2-3), indicating partial efforts to interlink the logic of social impacts with regulatory requirements.
- Foundations also display a mixed approach, with high social narratives but little methodological structure.
- Although failing to reach advanced levels, public administrations display above-average values in terms of maturity, indicating institutional sensitivity towards sustainable transition, even if it is not always articulated within a systematic framework.

These differences reveal an uneven pattern linked to the technical capacity, methodological resources and institutional logic of the organisations.

2.2.2. Selected qualitative observations

The "Notes" obtained from the reports under analysis let us understand not only the methodological level, but also the intentionality and reporting style of each organisation.

Significant examples:

- A large textile company explicitly states how its operations affect the global supply chain, but fails to mention climate or regulatory risks to its own business model. This omission suggests that the exogenous approach has been prioritised over the endogenous one.
- A mutual insurance company highlights its commitment to the rights of the insured persons, but its double materiality assessment omits the financial perspective, limiting itself to a one-way analysis ("we have an impact on the environment", without considering "how the environment conditions us").
- One energy company includes a more formalised report, stating that it has conducted a double materiality analysis, although this analysis focuses on the risks and opportunities of the energy transition, without incorporating social or governance impacts.
- A cultural foundation, although not conforming to recognised standards, conducts an extensive reflection on its "educational and cultural impact on the public", without accounting for quantifiable indicators or systematised prioritisation processes.
- A recurring practice is observed in several non-profit organisations: reports function as narrative tools to boost community legitimacy, but lack an explicit section on materiality, thus duplicating efforts without adjusting to the existing technical framework.

These observations suggest that while there is widespread interest in sustainability, its systematisation and alignment with current frameworks differs markedly.

2.3. Discussion and key points for interpretation

2.3.1. Methodological proportionality and institutional diversity

The analysis of the quantitative and qualitative data supports the thesis of institutional proportionality. While the regulatory framework proposes a single reporting model under the principle of double materiality, its correct application requires technical, training and management resources that are unevenly distributed among organisations depending on their type.

SMEs face difficulties due to a lack of staff or budget allocated to sustainability functions. Although some are committed to improving their image or complying with sectoral standards, materiality analysis is often perceived as an extra requirement rather than a strategic tool.

Cooperatives and foundations, on the other hand, have a cultural inclination that is closer to the principles of sustainability, as they are actively participating in the community and operate under the logic of internal social responsibility. However, this awareness does not translate into a systematic methodological adoption, leaving their produced value under-represented in regulatory frameworks that prioritise quantifiable information.

Public administrations reveal, by their nature, a greater inclination towards incorporating sustainability policies, although double materiality analysis is not yet assumed as a requirement linked to public management or local governance.

2.3.2. Lack of cross-cutting indicators

In most of the reports under study, sustainability continues to be siloed: environmental, social and governance aspects appear in isolated sections, without a unifying methodological thread that brings together external impacts on society and internal impacts on the entity. In this sense, double materiality appears to be in an initial phase of "conceptual appropriation", but lacks sufficient technical or operational translation. There is a need to translate the impacts into some kind of cross-cutting unit, such as the monetary units proposed by social accounting.

2.4. Conclusions and recommendations

The evidence compiled demonstrates that the transition towards sustainability reporting based on double materiality must be adjusted to institutional plurality:

- SMEs: require simplified or modular guidelines that reduce the technical burden of the process, especially if they act as suppliers to wider value chains..
- Cooperatives and foundations: require tools that link their social and relational value with emerging indicators such as "public value generated" or hybrid social/economic accounting..
- Public administrations: must formalise their role as leaders by adopting double materiality as a public policy instrument, thus increasing institutional consistency.

For effective implementation, it is recommended:

1. To develop sectoral instruments tailored to each organisational reality.
2. To establish training mechanisms to implement double materiality analysis in organisations with limited resources.
3. To promote a cross-cutting methodology that brings together social, environmental and economic value, beyond the requirements of compliance.

2.5. Practical implications

The comparative analysis reveals that the adoption of the double materiality approach –a key element of the new European corporate sustainability paradigm– is still at an early or intermediate stage in most unlisted organisations. While there is widespread interest and awareness regarding sustainability, there is uneven implementation through systematic processes (impact identification, material prioritisation, indicator measurement, stakeholder dialogue, etc.), depending on organisation type.

The practical implications of these findings are grouped under three key dimensions:

1. Internal sustainability management:

Organisations failing to integrate double materiality into their governance model may face a loss of legitimacy with investors, customers, regulators or communities.

The participation of SMEs and social entities that are suppliers or partners of large groups may find their participation restricted in value chains requiring ESG traceability and accountability.

2. Regulatory compliance:

The "proportional" or flexible approach that the ESRS framework seeks to introduce is likely to be insufficient unless accompanied by specific tools, templates and criteria for each organisation type.

The initial asymmetry detected is a precursor to the risk of sustainability becoming an elitist or inaccessible standard for a large part of the production sector.

3. Measuring non-financial value:

Organisations that do not adopt cross-cutting (economic-social-environmental) models of measurement run the risk of underestimating their true impact, both positive and negative.

Social accounting and hybrid models emerge as ideal complementary approaches that aid in capturing the full value generated, especially in third-sector organisations and cooperatives.

2.6. Final thoughts on ESRS standards

The entry into force of the ESRS is a historic opportunity to harmonise and raise the level of sustainability practices in Europe. However, as this exploratory analysis has demonstrated, the effective implementation of the framework depends to a large extent on the ability of the system itself to recognise organisational diversity and to promote the integration of many-valued logics.

In their current incarnation, the ESRS:

- Promote a two-way vision of value (double materiality) that goes beyond the traditional focus on financial performance.
- Introduce new metrics on social, cultural, governance or public value.
- At the same time, they place technical demands on the production sector –especially in areas such as foundations or SMEs– that are not always proportionally affordable.

The challenge, therefore, is not conceptual but operational: to ensure that European standards can be adopted in a customised and meaningful manner by all organisations of different sizes, sectors and institutional logics. The model's success will not only be measured in published reports, but in its true capacity to transform the governance, participation and social contribution practices of the entities that apply it. If the ESRS can evolve from a logic of "compliance" to an instrument of purpose management and sustainable value creation, Europe could become not only a global benchmark in transparency, but also a model of ethical and social innovation.

3 Theoretical framework and literature review

Over the past two decades, the concept of materiality has undergone a profound transformation from a technical principle of financial accounting to the interpretative core of corporate sustainability. Originally, materiality defined what information was relevant to investors, i.e. what events could significantly influence the economic situation of a company. However, the growing interdependence between economic, social and environmental dimensions of business activity, together with European regulatory pressure, has prompted a broader reinterpretation of the concept.

This change has been consolidated with the Directive (EU) 2022/2464, known as the *Corporate Sustainability Reporting Directive* (CSRD), and with the European Sustainability Reporting Standards (ESRS) developed by EFRAG, which introduce the principle of double materiality. According to this perspective, entities should identify and report material issues not only from the perspective of their internal economic impact (endogenous or *financial materiality*), but also from their effects on people and the environment (exogenous or *impact materiality*) (EFRAG, 2023). Its conceptual innovation lies in acknowledging that impacts flow in both directions: organisations both affect the context and are simultaneously affected by it.

However, this broadening of the frame of reference has brought with it new methodological challenges. As Boiral and Henri (2017) point out, materiality processes often rely on heterogeneous participatory consultations, without homogeneous protocols for assessment, thus leading to varying results even among entities within the same sector. The move away from fixed lists of indicators –characteristic of the Global Reporting Initiative (GRI) stage– towards more open and participatory methodologies has increased the complexity and discretion of the process.

Stakeholder theory (Freeman, 1984; Mitchell, Agle and Wood, 1997) is one of the theoretical pillars of this evolution, as it locates the legitimacy of organisations in their capacity to recognise and integrate stakeholder expectations. In parallel, social and environmental accounting (Gray, Owen and Adams, 2014) has sought to turn non-financial impacts into verifiable metrics, in order to bring together ethics and management through the language of indicators. To this may be added the perspective of participatory governance, which, as proposed by Manetti (2011), understands transparency and deliberation not as mere formal requirements, but as constituent mechanisms of institutional sustainability.

However, in practice, three structural limitations that prevent the consolidation of a robust methodology have been revealed. Firstly, the predominance of subjectivity: the selection of material issues depends on the degree of visibility or pressure from certain stakeholders, which introduces reputational biases and a tendency to prioritise more media-friendly issues over structural ones. Secondly, the lack of methodological consensus: there is no common definition of who defines and selects the material issues, how their importance is measured, or what indicators are to be used. Finally, the lack of mainstreaming: the results of materiality analysis are rarely integrated into social accounting systems or strategic planning, being relegated to the realm of regulatory compliance.

These gaps are widened when CSRD is applied outside the realm of large corporations. SMEs, co-operatives, foundations and public administrations face specific difficulties in implementing rigorous materiality processes, as they lack technical resources and frameworks tailored to their nature. As Del Baldo (2022) warns, in such contexts, materiality is often reduced to a formal implementation of a regulatory mandate, more geared towards compliance than organisational learning. Instead of becoming an instrument of diagnosis and transformation, materiality analysis risks hardening into an administrative formality devoid of strategic content.

Another major conceptual challenge lies in the asymmetry between exogenous and endogenous impact. While the first –the effects of the entity upon the environment– has consolidated indicator catalogues and frameworks, the second –the effects of the environment upon the entity– still lacks an established methodology. This gap leads to a double methodological fallacy: on one hand, top-down planning that defines material issues *ex ante* without empirical contrasts; on the other hand, bottom-up participation based on scattered and unverifiable perceptions. The result is a fragmented process, wherein the objectivity of indicators and the subjectivity of perceptions fail to come together into a coherent vision of value.

Thus, recent literature on this topic has focused on the need to move towards an integrating model of materiality analysis that combines the technical rigour of structural indicators with the deliberative legitimacy of stakeholders. Such a model should be reproducible and customisable for different types of entities, capable of reflecting both measurable impacts and qualitative insights that shape true sustainability. In short, the theoretical framework proposed here is based on the premise that materiality should not only be a reporting or compliance instrument, but an epistemic and ethical process for comprehending how organisations generate, distribute and sustain value within a complex and dynamic environment. The following paragraphs discuss the theoretical framework for each proposed hypothesis.

With regard to the first hypothesis on methodological asymmetry, the double materiality proposed by the ESRS differentiates between impact materiality (exogenous) –the effects of the organisation upon people and the planet– and financial materiality (endogenous) –the effects of ESG factors upon the organisation itself– (EFRAG 2023). Although the regulatory framework places both dimensions on the same conceptual plane, there is a persistent methodological asymmetry in the literature and in practice: exogenous effects are often addressed with impact catalogues and indicative guidelines (derived from GRI/SASB or sectoral roadmaps), while endogenous effects lack stable protocols to capture an entity's actual exposure to risks and opportunities, especially when these are intangible, long-term or institutional. In operational terms, this leads to a "strong top-down" approach for exogenous materiality –pre-defined themes– and a "weak bottom-up" approach for endogenous materiality –scattered perceptions without structural validation–, thus reproducing the gap that the CSRD was intended to close.

From the perspective of stakeholder theory, this asymmetry may be interpreted as a knowledge governance problem: organisations prioritise what they control and measure (exogenous "catalogueable" impact) and underestimate that which depends on relationships, power and legitimacy (endogenous exposure) (Freeman 1984; Mitchell, Agle and Wood 1997). The result is a visibility and control bias: "outward" effects –emissions, waste, occupational safety– are more robustly reported, while "inward" effects –emerging regulatory risk, social conflict, reputational erosion, or reliance on relational capital– are under-represented because they lack simple metrics. This critique matches up with social and environmental accounting, which warns against confusing measurability with relevance: that which is not easily quantifiable may be decisive for long-term sustainability (Gray, Owen and Adams 2014).

The literature on reporting and engagement also finds that in the absence of a common methodological framework, materiality processes tend to over-represent reputational preferences and under-represent structural impacts (Manetti 2011; Boiral and Henri 2017). In practice, exogenous impact is expressed in terms of lists of "plausible" issues and severity/scope matrices, while endogenous impact is reduced to internal judgements or short-term financial projections, omitting transition scenarios, systemic dependencies (e.g. regulatory change, climate litigation) or intangible institutional elements (social licence, trust capital). This drift produces what we might call "epistemic asymmetry": exogenous impact is validated with "hard" evidence (inventories, indicators), while endogenous impact is relegated to perceptions or retrospective financial metrics, which do not capture the social and regulatory endogeneity of risk.

Overcoming this asymmetry requires, theoretically, the integration of three gears. Firstly, a scaffolding of structural indicators for exogenous impact (severity, extent, remediability, time horizon), with traceability and comparability. Secondly, an endogenous risk-opportunity framework that combines scenario analysis, dependency mapping, qualitative stress testing (social licence, regulatory vulnerability) and proxy metrics for intangible elements (e.g., dispute density, litigation exposure, compliance gaps). Thirdly, robust participatory deliberation that not only weighs issues, but co-defines the determinants of materiality in both directions, with rules of representativeness and transparency (Freeman 1984; Mitchell, Agle and Wood 1997; Manetti 2011). In summary, the hypothesis posits that double materiality will only achieve methodological equivalence if the endogenous component stops relying on generic perceptions and adopts verifiable protocols that are equivalent to those used to measure exogenous impact; otherwise, this asymmetry will continue to generate inconsistent assessments and loss of usefulness for strategic decision-making.

The actual capacity of organisations to apply these standards with methodological rigour varies substantially according to their size, legal nature and institutional purpose. This gap shapes institutional disproportionality, understood as the distance between regulatory requirements and the operational capacities of different entity types (EFRAG 2023; European Commission 2024).

In large listed corporations, materiality analysis and reporting processes are internalised in complex governance and compliance structures, supported by specialised consultancy firms and digital traceability systems. Conversely, SMEs, cooperatives, foundations and public administrations –which represent the majority of the European economic and social sector– lack the technical resources, specialised human capital and adapted sectoral frameworks to develop broad participatory processes or conduct complex impact analyses (Del Baldo 2022; Venter, De Villiers and Rinaldi 2022). This results in an asymmetric compliance, where entities with less institutional capacity are forced to apply instruments designed for large corporations, incurring disproportionate costs and losing strategic sense.

From a theoretical perspective, this inequality reflects the tension between regulatory standardisation and institutional plurality, a recurring problem in social accounting and sustainability (Gray, Owen and Adams 2014). While the ESRS seek information comparability and standardisation, the European organisational reality is characterised by structural heterogeneity: for-profit commercial companies, cooperatives and mutual enterprises, philanthropy-oriented foundations and public administrations with service mandates. Applying the same framework without accounting for scale and purpose leads to a phenomenon of "regulatory isomorphism" (DiMaggio and Powell 1983), where entities formally replicate foreign models in order to avoid sanctions or appear compliant, without generating true learning and transformation.

Recent literature warns that this disproportionality is not only technical, but also epistemic and cultural. Small or social economy organisations interpret sustainability from community or mission-based

values, not from capital market theory, and therefore experience reporting processes as an externally imposed requirement rather than a management tool (Le Pelley and Manetti 2021). Moreover, the lack of specific sectoral criteria means that financial, environmental or social indicators designed for capital-intensive industries are not relevant for community, educational or cultural organisations. As a result, the materiality declared by these entities tends to be reduced to generic lists of issues –energy, waste management, gender equality– with no connection to their actual mission or specific social impacts.

From a methodological point of view, the hypothesis of institutional disproportionality suggests that the current double materiality framework requires principles of proportionality and modularity. This implies adapting the analytical demands and depth levels to the capacities and purposes of each organisation type, without weakening traceability and accountability. Some authors propose tiered approaches to implementation or proportional reporting systems based on the principle of "reasonable compliance ability" (Venter, De Villiers and Rinaldi 2022; EFRAG 2023). Others propose the inclusion of simplified participatory methodologies, supported by social accounting tools and public value measurements that enable the integration of social and relational dimensions without overburdening entities (Retolaza, San-José and Ruiz-Roqueñi 2016).

Ultimately, this hypothesis posits that the effectiveness of ESRS depends not only on their technical rigour, but also on their institutional adaptability. Without a proportional adaptation of the materiality requirements, the system risks reproducing an elitist sustainability, accessible only to large corporations, while marginalising the broad spectrum of organisations that embody alternative forms of value creation –cooperatives, foundations, social entities or local administrations–. Achieving methodological equality among these actors is a prerequisite if sustainability reporting is to fulfil its purpose: to reflect in a fair, verifiable and pluralistic way, each organisation's contribution to the common good.

One of the most persistent practical problems in materiality analysis and corporate sustainability management is the defensive interpretation of impact. Most organisations tend to conceive of exogenous impacts –those generated by them on the environment– as reputational, regulatory or financial risks that need to be controlled or mitigated, rather than as opportunities for innovation, cooperation and shared value creation (Porter and Kramer 2011). This reactive leaning is deeply rooted in a management culture derived from the risk theory and compliance paradigm, where impact is associated with exposure and contingency, rather than transformation or purpose.

Conceptually, this defensiveness translates into a semantic shift: impact is no longer a proactive dimension of sustainability but a control variable. Reporting systems prioritise damage control, not the generation of social or environmental benefit. As recent studies on the practice of *Environmental, Social and Governance (ESG) reporting* have pointed out, most reports emphasise operational or reputational risk reduction, while barely measuring the net positive contribution to the environment (Boiral and Henri 2017; Unerman, Bebbington and O'Dwyer 2018). The language of sustainability thus becomes an extension of the language of compliance: what threatens is quantified, but not what transforms.

The endogenous impact, on the other hand, undergoes a process of reverse trivialisation. Instead of being conceived of as an area of institutional learning and strategic resilience, it is often assimilated into the ordinary management of internal processes: energy efficiency, occupational risks, training, cost control. This methodological confusion limits the potential of materiality analysis as a tool for organisational change, as it makes the reflexive dimension of sustainability invisible. As Gray (2010) warns, truly sustainable accounting cannot simply "manage externalities", but must encourage ethical and transformative self-observation of the organisation itself.

From the perspective of shared value creation theory (Porter and Kramer 2011) and purpose-driven sustainable management (George et al. 2021), sustainability should be understood as a process of strategic impact integration: that which affects the environment can become a driver of innovation, competitive differentiation and social legitimacy. However, in practice, most companies continue to operate under the paradigm of "damage control", where sustainability is perceived as the cost of compliance or as a reputation management tool. This approach hinders the emergence of proactive strategies and reduces the potential for positive impact as a source of institutional value.

The defensive impact bias may be interpreted, in sociological terms, as an organisational self-preservation mechanism: entities tend to minimise uncertainty by externalising responsibility or restricting accountability to controllable variables. This behaviour reinforces a feedback loop: by treating impact as a threat, organisations treat it superficially, and this superficial treatment prevents the emergence of transformative learning processes (Argyris and Schön 1996). Sustainability thus becomes a practice of "compliance without conscience", more oriented towards protecting stability than rethinking the production model.

Overcoming this bias requires epistemological and operational change. In theoretical terms, it involves moving from a logic of risk management to one of value and purpose management. In practice, it means making available materiality analysis tools that are capable of identifying potential positive impacts and monitoring the evolution of negative impacts for structural improvement, integrating the information into strategic decision-making processes. Methodologically, impact should be understood as a two-way learning process: what the organisation causes and what it receives are both sources of knowledge and innovation. Only then can sustainability extend beyond formal compliance to become a system of institutional and social transformation.

One of the main challenges in the evolution of sustainability reporting and materiality analysis is the fragmented nature of indicator systems. Despite the regulatory advances introduced by the CSRD and the ESRS, the mechanisms for measurement remain compartmentalised, where economic, social and environmental dimensions are assessed independently, with little consistency between them. This lack of mainstreaming prevents building a holistic view of sustainable value, and ultimately limits the usefulness of the report as a management and accountability tool.

The historical roots of this compartmentalisation of indicators lie may be found in the evolution of sustainability standards themselves. The Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) or the IIRC's Integrated Reporting Framework were designed with different rationales: some focused on social and environmental impacts (GRI), others on sectoral and financial relevance (SASB), and others on value creation for investors (IIRC). As Bebbington and Larinaga (2014) point out, this diversity of frameworks has generated a hybrid system in which social and environmental metrics do not enter into dialogue with economic metrics, but coexist as parallel subsystems. This results in a report that "informs a lot but explains little": it offers abundant data but lacks the capacity for cross-cutting interpretation.

From the perspective of critical accounting theory, authors such as Gray (2010) and Thomson (2014) warn that sustainability cannot be understood as the sum of three independent dimensions, but as an interdependent structure of value flows - economic, social and ecological - that only make sense when analysed as a whole. However, corporate practice tends to maintain the triple bottom line paradigm as a framework of aggregation, not integration. In other words, impacts are counted in silos -financial, labour, environmental- without mechanisms that bring them together into a common narrative about the organisation's net contribution to the common good.

This lack of a cross-cutting approach is also in response to an epistemological limitation: the predominant indicators give greater importance to that which is quantifiable and comparable, leaving out

intangible or relational dimensions of value, such as trust, legitimacy, participation or community capital. These elements, which are fundamental to institutional sustainability, are difficult to integrate into traditional frameworks of measurement. Within this context, various proposals for social and non-financial value accounting have emerged (Retolaza, San-José and Ruiz-Roqueñi 2016; Bebbington et al. 2019), which seek to translate social impacts into verifiable units through monetisation methods or indicators of perceived value. They are not intended to replace financial metrics, but to supplement them in order to provide a more accurate representation of the total value generated by the organisation.

The problems inherent to the lack of a cross-cutting approach are exacerbated when sustainability reporting becomes a formal compliance exercise, detached from strategic decision-making processes. Information is compiled because it is compulsory and not as an integrated management tool. This leads to "window dressing accounting" that complies with the requirement for transparency but does not contribute to organisational transformation. In the words of Flower (2015), the risk is that *integrated reporting* becomes a "sophisticated aggregation system" with no real integrating content.

From a theoretical perspective, the hypothesis is that the cross-cutting nature of indicators is a structural requirement for operational double materiality. Without connections between dimensions, sustainability analysis loses internal consistency: exogenous impact cannot be assessed without understanding the endogenous conditions that generate it, and vice versa. Social accounting thus appears as a suitable integration framework, since it allows the linking of economic value with social and environmental value by means of a common language. According to Retolaza et al. (2016), the role of social accounting is not only to measure, but to make the invisible visible, generating a quantified account of each organisation's contribution to the collective well-being.

Consequently, overcoming the lack of mainstreaming in indicators requires a twofold methodological reform. On one hand, to develop relational indicator systems that make it possible to analyse how economic results depend on the quality of the social and environmental surroundings; on the other hand, to design integrative aggregation models –such as net social value or integral sustainability value– that are capable of expressing the organisation's global contribution to the common good. Only a cross-cutting approach to measurement will enable progress from a siloed accountability towards full sustainability accounting, where economy, society and nature are conceived of as parts of the same interdependent system.

One of the most persistent biases in contemporary sustainability analysis is reducing organisational interest to only its financial dimension. Within the double materiality framework, this bias is especially evident in the endogenous component, where environmental impacts upon the organisation are interpreted almost exclusively in terms of economic risk or opportunity. Thus, factors such as environmental regulation, social pressure or cultural evolution are analysed only for their potential effect on financial performance or competitiveness, leaving out other forms of value that define the identity and social function of the organisation. This view constitutes what may be deemed a methodological fallacy of financial reductionism, which confuses sustainability with solvency, and institutional value with book value.

Historically, this interpretation is derived from neoclassical economic theory, subsequently extended to shareholder theory. It conceives of the organisation as a rational profit-maximising agent within a competitive environment; therefore, any relevant external impact must be translated into a financial variable. This view has been boosted by traditional accounting frameworks, which focused on investor protection and market stability (Donaldson and Preston 1995). However, since the 1980s, stakeholder theory (Freeman 1984) and pluralistic governance approaches have challenged this re-

ductionism by highlighting that organisations operate within a web of moral, social and ecological relationships, where financial results are a means, not an end.

Within the field of corporate sustainability, endogenous materiality partially inherited this bias by being defined initially as the extent to which ESG factors affect the company's financial position or future cash flows. While understandable from a market perspective, this approach becomes problematic when applied to organisations with non-market missions –cooperatives, foundations, universities, public administrations– or even to companies with an explicit social purpose. In these cases, the relevant external impacts are not limited to financial ones, rather they include variables such as institutional legitimacy, public trust, organisational stability or ethical consistency, dimensions that are rarely quantified but which determine long-term survival (Gray 2010; Bebbington et al. 2019).

The literature on social value and expanded accounting has shown that reducing internal materiality to economic performance distorts the understanding of organisational value. Models such as *Social Value Accounting* (Retolaza, San-José and Ruiz-Roqueñi 2016) and the *Integrated Value Framework* (Mervyn and Peirson 2020) argue that financial profitability is an instrumental condition for the generation of social, environmental and relational value, but not its ultimate goal. The problem is that current regulations – even the most advanced, such as the CSRD – maintain an implicit hierarchy: financial reporting remains the cornerstone of reference and legitimisation, while other values are presented as narrative complements. This imbalance perpetuates an epistemological bias: the financial is measured and audited; the social is described and justified.

Financial reductionism also has methodological and political consequences. Limiting the concept of endogenous impact to the economic sphere weakens the ability of sustainability reporting to detect systemic vulnerabilities (e.g. loss of relational capital or institutional reputation) and to anticipate cultural or regulatory changes that may redefine business models. In the case of third-sector or social economy organisations, the mechanical application of financial metrics ignores the diversity of their value logic: solidarity-based redistribution, community cohesion or the production of common goods. Thus, the current approach risks imposing an evaluative homogeneity that erodes the institutional plurality of the European economic ecosystem (Adams and Abhayawansa 2021).

Overcoming this reductionism requires reconfiguring endogenous materiality from an ontological perspective of plural values. In theoretical terms, this implies recognising that environmental impacts affect not only the entity's solvency, but also its *raison d'être*: its purpose, legitimacy and moral sustainability. In practice, it requires broadening the repertoire of indicators to include intangible and non-financial dimensions that are capable of reflecting the institutional contribution to social resilience and the common good. Ultimately, the hypothesis argues that truly sustainable internal materiality cannot be reduced to measuring environmental influence on financial performance, but it must capture how that environment conditions the organisation's ability to sustain its mission, build trust and engage in the collective creation of value.

The consolidation of double materiality as a guiding principle of sustainability reporting has revealed a structural tension between two complementary but often dissociated logics of knowledge: analytical logic, based on objective indicators, and participatory logic, focusing on stakeholder perception and values. In practice, materiality analysis processes tend to prioritise one of two perspectives: either they become overly technical, reducing sustainability to a set of quantitative metrics, or they become subjective, relying on deliberative dynamics without empirical validation or traceability. This misalignment generates a methodological dissonance that prevents the coherent translation of organisational impacts into useful knowledge for management and strategic decision-making (Manetti 2011; Boiral and Henri 2017).

From a theoretical point of view, the convergence between both dimensions responds to the need to integrate different epistemologies within the same process: the empirical objectivity of accounting and the social phenomenology of legitimacy. In the words of Gray, Owen and Adams (2014), sustainability requires “dialogic” accounting, where quantitative data does not replace social dialogue, rather informs and verifies it. The analytical approach allows the magnitude and frequency of impacts to be assessed, comparisons to be made, and trends to be projected; on the other hand, the participatory approach endows the data with meaning and legitimacy by contextualising it within stakeholder experiences, perceptions and expectations. The lack of connection between the two planes generates what could be called a “hermeneutic fracture of materiality”: numbers report, but do not communicate; discourses raise awareness, but do not demonstrate.

Recent literature on *stakeholder engagement* insists that participation cannot be reduced to a formal consultation, but must be structured as a phenomenological process of co-construction of meaning (Greenwood 2007; Unerman, Bebbington and O'Dwyer 2018). This implies incorporating deliberative mechanisms that guarantee the representativeness and plurality of the voices involved, overcoming the tendency of organisations to select convenient or institutionally close points of contact. In parallel, the analytical dimension must be strengthened through the use of verifiable indicators, open data and social and environmental accounting frameworks, which permits qualitative perceptions to be translated into homogeneous units of analysis, facilitating comparison and sectoral cross-cutting approaches. In this sense, social accounting offers an ideal instrument of epistemological mediation, as it combines quantitative traceability with the deliberative legitimacy of social judgement (Retolaza, San-José and Ruiz-Roqueñi 2016).

Methodologically, this convergence requires the development of hybrid systems that integrate dialogue with measurement. Rather than conceiving of materiality analysis as a linear sequence (consult, prioritise, report), an iterative and reflective model is proposed, where the results of the indicators feed back into discussions with stakeholders and vice versa. Data thus becomes a shared language and stakeholders become interpretative agents of value. Such an approach also responds to the principles of *integrated thinking* promoted by the IIRC, which stresses the need to align the different forms of capital (financial, human, social and natural) under the same narrative of value creation (Adams 2017).

The ultimate goal of this hypothesis is to move towards an expanded materiality, one that is capable of depicting not just what organisations do or report, but what they mean, transform and generate in terms of social, environmental and cultural value. This expansion does not involve adding new layers of complexity, rather it reconfigures the relationship between technique and ethics: between the objective measurement of the impact and the subjective interpretation of its meaning. The shift from a formal and defensive materiality –one focused on regulatory compliance– to a strategic and relational materiality lies in this balance, conceived of as a bridge between data governance and value governance.

4 Justification and contextualisation of the Delphi method

The lack of methodological consensus on materiality analysis, noted in the literature and demonstrated in business practice, calls for an approach that demonstrates the diversity of perspectives within the field of sustainability without sacrificing scientific rigour. In this sense, the Delphi method offers an ideal tool to address this research problem by combining structured deliberation, anonymity and iterative consensus-building among qualified experts.

4.1. Theoretical background and relevance of the method

The Delphi method, initially developed by the RAND Corporation in the 1950s (Dalkey & Helmer, 1963), was created to solve complex problems in contexts of uncertainty with limited empirical evidence or multidimensional variables. Its guiding principle is to collect, compare and synthesise expert judgement through successive rounds of anonymous consultation, so that each participant may reconsider his or her position in light of the group's aggregate information (Linstone & Turoff, 2002).

This characteristic makes it a methodological instrument uniquely suited to studying materiality in sustainability, a field where absolute objectivity is unattainable, but where arbitrariness may be reduced by building informed consensus. In other words, the Delphi method makes it possible to operationalise that which is demanded by European policy frameworks: participatory governance based on expert knowledge and traceability of decisions (EFRAG, 2023).

Recent studies have used the Delphi method in related areas, such as defining ESG indicators, assessing social impacts, or harmonising reporting standards (Siew, 2015; Reimsbach & Hahn, 2021). These works show that the Delphi method is especially useful for creating taxonomies of comparable relevance and weightings across organisational contexts, which is essential for moving towards more structured and verifiable materiality. In this study, the method is adapted to the analysis of accelerators, problems and proposals for improvement in the application of double materiality (Lan-deta, 2006).

4.2. Design and structure of the process.

The methodological design of this study is based on the recommendations of Linstone and Turoff (2002) and recent applications of the Delphi method in the field of sustainability (Hasson et al., 2000; Okoli & Pawlowski, 2004). The procedure consists of selecting a panel of experts representing the different actors involved in double materiality (academia, the business sector, etc.). The identity of the participating experts as well as their responses are anonymised, and known only to the coordinators of the study. Keeping responses anonymous encourages freedom of opinion and avoids the influence of dominant figures or potential group conflicts (Rowe and Wright, 1999).

In the first round of the study, experts are presented with a structured questionnaire intended to identify main obstacles and facilitating factors in the practical application of the principle of double materiality. Once the responses have been collected, the coordinating team proceeds to conduct a qualitative and quantitative analysis, codifying the information into thematic categories and preparing a summarised report that includes the points of consensus, dissent and ambiguity detected among the participants. This report –while maintaining individual responses anonymous– is redistributed to all panel members in the next round, inviting them to review and, if necessary, adjust their assessments in light of the group's aggregate opinion.

This iterative procedure, characteristic of the Delphi method, makes it possible to progressively refine individual perceptions and encourage convergence of criteria on the most debated or prioritised issues. The validity of the process lies in the controlled feedback and statistical aggregation of responses, ensuring that the final results reflect an informed collective view, rather than reproducing the influence of individual participants or dominant positions (Hirschhorn 2018). Furthermore, the flexible nature of the Delphi approach allows the content and structure of the questionnaires to be adjusted to the specific nature of the object of study –in this case, the assessment of double materiality and its degree of integration into strategic management and sustainability reporting systems–.

The aim of this methodology is to identify, in a rigorous and participatory manner, the accelerators that can boost the effective implementation of double materiality, the main obstacles that limit it, and the recommendations agreed upon to improve its application, both in the cooperative sector and in the general business sector. Ultimately, the aim is to generate a shared framework of knowledge that serves as a basis to design methodological tools and policies adapted to different organisations.

4.2.1. Selection of experts

Table 1 lists the basic information of the expert panel created for the application of the Delphi method. The selection was made by means of a purposeful and criterial sampling, in order to guarantee the disciplinary and professional diversity required to address double materiality from multiple perspectives. Consequently, academics specialised in sustainability and social accounting, managers and sustainability officers in large companies, consultants with experience in ESRS implementation, and representatives of sectoral bodies and business associations involved in the drafting or implementation of sustainability reports, were included.

The heterogeneous nature of the panel design responds to the principle that the validity and richness of the results in a Delphi study depend to a large extent on the plurality of the participating profiles and the complementarity of their epistemological and practical approaches (Landeta 2006; Okoli and Pawlowski 2004). The simultaneous inclusion of actors from the academic, corporate and institutional spheres enables the integration of theoretical, technical and experiential knowledge, thus facilitating a more complete understanding of the accelerators, limitations and opportunities that characterise the implementation of double materiality in the Spanish context.

Furthermore, the diverse nature of the panel is intended to balance the representation of different levels of application and responsibility –from conceptual and regulatory definition to operational implementation and reporting verification– thus ensuring a cross-cutting and applied view of the problem. In this way, disciplinary bias is avoided and both the strategic reflections of academia and practical experiences derived from the actual management of materiality processes in a variety of organisations are captured. Overall, this approach allows us to generate multi-level and participatory knowledge, which is suitable for informing subsequent methodological proposals to boost materiality analysis and aligning it with CSRD and ESRS principles.

The criterion for inclusion involved having at least five years of accredited experience in sustainability reporting processes or non-financial information assurance, in benchmark entities; large companies and consultancies, regulatory bodies, civil society and universities. Complementary profiles were sought. Anonymity and controlled feedback ensured independent judgement and the absence of dominance, ensuring that the consensus obtained responded to a rational evaluation and not to dynamics of social influence.

//// TABLE 2 Information on the experts

Expert	Sex	Type	POSITION	Organisation
Oriol Amat	Male	Academic	Senior Professor	Pompeu Fabra University
Alberto Andreu	Male	Auditing	Senior advisor Sustainability	EY
Estíbaliz Añón	Female	Analyst	Head of Security and Sustainability	Nortegás
María Elisa Arroyo	Female	Management	ESG Officer	Kutxabank
Iker Arteagabeitia	Male	Analyst	Financial Director	Kutxabank
Joseba Barandiarán	Male	Management	Director of Financial Planning and Sustainability	Laboral Kutxa
Ana Fombellida	Female	Consultancy	Experienced Senior Consultant, Strategy, Risk, Transactions	Deloitte
Mercedes Luque-Vílchez	Female	Academic	Senior Professor	University of Cordoba
Jordi Martí	Male	Academic	Professor	University of Barcelona
José Mariano Moneva	Male	Academic	Senior Professor	University of Zaragoza.
Pedro Rivero	Male	Civil society	Director of the Social Responsibility Committee	AECA
Maria Samper	Female	Regulator	Member of the Technical Department of the Spanish Institute of Sworn Auditors (ICJCE)	ICJCE
José Miguel Tudela	Male	Management	Sustainability Director	Enagas
Elena Valderrábano	Female	Management	Global Director of Sustainability	Telefónica

A total of 17 experts were invited to participate in the study, in an attempt to cover a representative spectrum of relevant actors. Of these, three declined to participate: one because they felt that their expertise was not sufficient to add value to the panel, one due to lack of time, and one due to a conflict of interest. Finally, the panel was composed of 14 experts who accepted, thus ensuring the quality and plurality of the consultation process. Of the 14 experts, 43% are women and 57% men.

4.2.2. Phases of the Delphi process

The Delphi study was conducted in three successive rounds, structured according to the usual methodological guidelines for this type of study (Okoli and Pawlowski 2004; Landeta 2006). The objective was to identify, prioritise and agree on the main factors influencing the strategic application of double materiality analysis, as well as possible improvements within the Spanish organisational context.

In the first round, experts were invited to answer a set of open-ended questions aimed at exploring their perception of the phenomenon under study. Specifically, they were asked to identify:

- the main obstacles for organisations to use double materiality analysis as a strategic tool beyond mere regulatory compliance;
- the facilitating or accelerating factors that could boost their effective integration into corporate governance; and
- weaknesses in the current process, together with proposed improvements to optimise traceability and consistency of results.

The responses obtained were analysed by qualitative coding and frequency analysis, in order to group the ideas by recurrence and perceived relevance. A summarised set of items was drawn up from this processing, which served as the basis for the second phase of the study.

In the second round, the experts evaluated the items identified in the previous stage according to a five-point Likert scale (1 = "not at all important/irrelevant"; 5 = "very important/relevant"). The variables were organised into four main categories: *brakes*, *accelerators*, *weaknesses* and *proposals for improvement*. Additionally, for all items that received high scores (values of 4 or 5), participants were asked for empirical examples or professional experiences to justify their assessment. This phase provided a quantitative measure of the degree of consensus and an initial validation of the emerging hypotheses.

Finally, in the third round, based on the statistical and qualitative analysis of the previous responses, four problem areas were prioritised. On this basis, the experts were asked to formulate concrete proposals for developing applicable strategies or tools to improve the effectiveness of double materiality analysis as a management tool and for sustainable value generation.

Overall, this methodological sequence made it possible to progressively refine individual perceptions, identify points of convergence between different professional profiles, and integrate the results into a shared interpretative framework.

4.3. Expected methodological contribution

The Delphi method used in this study pursues three interrelated objectives that respond to the main limitations observed in current practices in materiality analysis. Firstly, it seeks to reduce existing conceptual uncertainty surrounding the criteria and procedures for determining materiality, encouraging the creation of a consensual and replicable methodological framework for standardised application in different entity types. Secondly, it aims to provide a proven empirical basis to facilitate linking the results of the materiality analysis and the structural indicators of social and environmental accounting, thus reinforcing the objective dimension of the process. Thirdly, it aims to strengthen the participatory legitimacy of sustainability reporting by defining material issues on the basis of a collective, deliberative and documented process of expert consultation.

In this sense, the Delphi method is not only understood as a research tool, but also as an instrument of epistemic governance, consistent with the principles of transparency and participation set out in Directive (EU) 2022/2464 (CSRD). Its application translates the regulatory, social and technical complexity of the European sustainability framework into operational prioritisation criteria, demonstrating the interplay between expert judgement and shared social value. The Delphi study thus helps to integrate scientific rationality with democratic legitimacy, providing a sound methodological basis for decision-making as regards corporate sustainability.

The methodology also has considerable potential for institutional transfer. The consensus reached in the process may serve as an empirical reference for the development of national materiality guidelines supplementing the European standards (ESRS), as well as act as a support tool for smaller organisations – SMEs, cooperatives, foundations or local administrations – that lack their own technical or methodological resources. Ultimately, the adoption of this participatory and systematic approach can contribute to harmonising sustainability reporting practices in Spain, boosting transparency, comparability and inter-institutional consistency, and consolidating a culture of accountability in line with the objectives of the European ecological and social transition.

5 Delphi analysis

5.1. Delphi Study Round 1

As discussed in the previous section, the first round of the Delphi study was designed to gather broad, qualitative insights into the current status of double materiality in organisations. To this end, the experts were asked three open-ended questions:

1. What do you consider to be the main brakes preventing organisations from using double materiality analysis as a strategic tool beyond regulatory compliance?
2. What factors could act as accelerators to make this study a true strategic tool?
3. In your opinion, what are the biggest weaknesses of the process and how could traceability in double materiality analysis be improved?

Once the responses were collected, they were analysed qualitatively through open coding and frequency counting in order to identify the most recurrent and representative ideas. Annex 4 classifies the main categories of brakes that hinder the use of double materiality analysis as a strategic tool. The responses are grouped according to their frequency of occurrence, colour coded in order to facilitate their interpretation: the most frequent (gray on top), moderately frequent (in white), and the least frequent ideas (gray on bottom), cited by only one or two participants. This visual scheme is consistently maintained across subsequent tables.

Annexes 5 and 6 list, respectively, the accelerating factors that could boost the incorporation of double materiality in strategic management, and the main weaknesses detected in the traceability of the process. Annex 7 lists the participants' proposals for improvement, although not ordered according to their frequency of appearance, given their exploratory and qualitative nature.

Subsequently, in the second round of the Delphi study, the experts were invited to quantitatively assess the ideas identified in the first phase. A five-point Likert scale (1 = "Not at all important" to 5 = "Very important") was used in Annexes 4, 5 and 6, and an equivalent scale (1 = "Not at all relevant" to 5 = "Very relevant") in Annex 7, referring to proposals for improvement. For items with high scores (4 or 5), participants were also asked to provide specific examples from their professional experience in order to contextualise the ratings and enrich the empirical analysis.

5.1.1. Brakes

The qualitative analysis of the responses obtained in the first round of the Delphi enabled the identification of twelve main brakes restricting the use of double materiality (DM) analysis as a strategic tool. These brakes are grouped into four main thematic blocks: cultural and organisational, operational and resources, methodological and contextual.

Firstly, the cultural and organisational brakes are the most recurrent and reveal a widespread pattern of limited understanding of the strategic purpose of double materiality. The most commonly cited brake is the view of regulatory compliance, where the process is conceived as a checklist exercise intended to satisfy regulatory requirements rather than generating organisational knowledge. This

"comply and report" approach, literally present in expressions such as "enforceability", "check" or "reporting exercise", reveals a formalistic compliance culture that tends to prioritise the process over the results. The same block includes the scarce strategic integration of ESG criteria, associated with the persistence of "financial inertia" and the lack of true incorporation of social and environmental factors into corporate strategy. Both factors denote a cultural resistance to the paradigm shift implied by double materiality, still perceived as an exogenous obligation rather than an opportunity for internal transformation.

Secondly, operational and resource constraints are linked to structural limitations for the effective implementation of the analysis. These include the difficulty of cross-cutting work and the lack of interdepartmental commitment, expressed in quotes such as "no one is involved" or "pervasive difficulty in working end to end". This lack of coordination is exacerbated by a lack of knowledge and specific training regarding double materiality, together with a shortage of time, data and resources, repeatedly mentioned as a barrier to rigorous analysis. These operational limitations reflect the low degree of institutionalisation of the process within organisations, especially in small entities or ones without specialised teams.

The third group of brakes involves methodological factors, where shortcomings in the homogenisation of approaches are evident. Several experts point to the absence of a common methodological framework and the lack of clear criteria or thresholds of relevance, leading to inconsistent results across entities. Similarly, some participants mention the loss of strategic focus when the analysis is broken down into overly technical or detailed levels, which diminishes the transformational purpose of the exercise. These findings confirm the need for further standardisation and operational guidelines for the practical application of double materiality in different organisational contexts.

Finally, contextual brakes related to the perception of enforceability without competitive incentives, the absence of consolidated previous practices, and confusion with historical sustainability assessment tools are identified. These elements suggest that, in the absence of institutional pressure or external recognition, organisations tend to adopt a reactive and limited approach to formal compliance.

Overall, the results show that the main challenge for the effective implementation of double materiality lies not only in the technical complexity of the process, but also in a lack of cultural, institutional and methodological alignment that hinders its strategic appropriation. The predominance of a logic of compliance, together with the fragmented nature of responsibilities and little training, leads to an immature circle which reduces the potential of dual materiality as a tool for management and sustainable value creation.

5.1.2. Accelerators

Analysing the responses on accelerating factors reveals a set of elements that can boost the consolidation of double materiality (DM) analysis as a strategic and not just regulatory tool. As in the case of the brakes, the results are grouped into four main blocks: cultural and organisational, operational and resources, methodological and contextual.

Firstly, cultural and organisational accelerators are associated with the presence of committed leadership and a sustainability-oriented corporate culture. Experts stress that when management incorporates double materiality into the strategic narrative –linking impacts to the mission, values and long-term objectives– it generates conditions of institutional consistency that enable the real integration of double materiality into decision-making. In this regard, the involvement of the Board of Directors and senior management is mentioned as a decisive factor, as it increases its internal priority and endows the process with cross-cutting legitimacy. Similarly, awareness-raising and continuous training in sustainability contribute to creating a shared knowledge base, reducing internal resistance and boosting understanding of the transformative purpose of the exercise.

At the operational and resources level, participants highlight the importance of clear governance structures, multidisciplinary teams and well-defined participatory processes, which facilitate coordination between areas and the flow of information. The existence of digital monitoring tools, availability of reliable data, and sufficient time and resources emerge as factors that increase the efficiency of the analysis and strengthen its traceability. Furthermore, the creation of spaces for structured dialogue with stakeholders is seen as key to transforming the process into an organisational learning and social legitimisation exercise.

Methodological accelerators are linked to the clarity of reference frameworks and the availability of specific technical guidelines. Experts agree that the adoption of international standards –such as the ESRS (EFRAG, 2023) or the sectoral benchmarks of the GRI and SASB– facilitates comparability, improves result quality, and reduces discretionary interpretation. The incorporation of evidence-based prioritisation criteria and integrated indicators between economic, social and environmental dimensions is deemed fundamental to move towards a vision of systemic sustainability. This methodological dimension not only gives technical consistency to the process, but also turns it into an operational and strategic management tool.

Finally, contextual accelerators include positive regulatory pressure stemming from CSRD and the growing demand for transparency from investors, customers and citizens. The consolidation of collaborative ecosystems –such as business networks, sectoral clusters and sustainability associations– is identified as an additional catalyst that promotes the exchange of good practices and the dissemination of replicable models. These external factors create a positive environment for organisations to consider double materiality not as an obligation, but as a competitive and reputational advantage, reinforcing their connection to the economy of the common good and sustainable development goals.

Overall, the results indicate that the transformation of double materiality into a strategic instrument depends, to a large extent, on the institutional maturity and cultural commitment of the organisations. The combination of conscious leadership, adequate resources and robust methodologies acts as the main driver of change, enabling materiality to become an integrated governance tool, capable of aligning sustainability with social and economic value generation.

5.1.3. Weaknesses

Analysing responses on the weaknesses of traceability in the double materiality (DM) analysis reveals a number of structural weaknesses that limit its ability to generate useful, verifiable and strategic information. These weaknesses fall into four main categories: cultural and organisational, operational and resources, methodological and contextual, highlighting the systemic complexity of this problem.

At the cultural and organisational level, experts agree that there is a lack of institutional ownership of the materiality process, which tends to be concentrated in isolated departments –usually sustainability or reporting– without a cross-cutting commitment from other areas. This organisational fragmentation results in a loss of continuity between the identification of material issues and their effective incorporation into strategic planning. Several participants also mention a lack of internal leadership to drive the process and ensure consistency between the different hierarchical levels. This cultural weakness translates into the perception of double materiality as an external technical requirement rather than an opportunity for institutional learning or organisational transformation.

From an operational and resources perspective, the most significant shortcomings relate to the absence of standardised recording and documentation systems, which makes it difficult to trace the process and to carry out comparisons between years. Many experts point to the lack of digital monitoring tools, the limited availability of verified data and the difficulty of coordinating information from multiple departments or external sources. The lack of specialised human resources and high time burden required to implement the process exacerbate this situation, leading to incomplete traceability or depending on individual interpretation.

On the methodological side, experts highlight the lack of standardisation in the phases of the analysis, and inconsistency in the prioritisation criteria used to determine material issues. There is significant disparity between organisations when defining materiality thresholds, levels of stakeholder engagement, and performance validation metrics. This methodological heterogeneity directly affects the comparability and reliability of reports, reducing their usefulness for decision-making and external assessment. Additionally, there is a lack of independent verification mechanisms to ensure procedural consistency, which may lead to bias or overestimation of certain issues for reputational reasons.

Finally, at the contextual level, there is a lack of national or sector-specific guidelines to steer the practical application of European standards (ESRS) in organisations with different characteristics. This lack of common reference creates uncertainty and leads to greater levels of discretion when interpreting materiality criteria. Furthermore, there is little institutional and market pressure to demand verifiable traceability, especially in the case of SMEs, cooperatives or third-sector entities, where sustainability is not yet perceived as a key competitive element.

Overall, the results show that the traceability of double materiality is compromised by a lack of institutionalisation, homogenisation and verification, which undermines its function as transparency and governance instrument. Dependence on cultural factors, dispersed methodological and a lack of resources create a scenario where materiality analysis runs the risk of becoming a formal exercise, more geared towards meeting regulatory requirements than generating strategic knowledge on the real impacts and dependencies of organisations.

5.1.4. Proposals for Improvement

The analysis of the table of proposals for improvement derived from the first and second Delphi study rounds identifies a series of converging lines of action that, according to the experts, could boost the practical application and traceability of double materiality (DM) analysis in organisations. These proposals are developed around four main key aspects –methodological, organisational, training and structural– which complement each other and reflect a consensus on the need to move from a formal vision of compliance to a strategic and participatory approach.

Firstly, the methodological proposals focus on the harmonisation and standardisation of the materiality analysis process. Participants agree on the advisability of establishing operational guidelines for national or sectoral application, which adapt the criteria of the European Sustainability Reporting Standards (ESRS) to the specific characteristics of Spanish entities, especially in the case of SMEs, cooperatives, foundations and public administrations. They also point to the importance of defining comparable relevance thresholds and prioritisation criteria, based on verifiable data and not just perceptions. In this sense, the experts highlight the usefulness of incorporating social and environmental accounting metrics, which make it possible to translate intangible impacts into objective and reproducible indicators. These proposals seek to make the process more technically robust and endow it with inter-institutional consistency, reducing the methodological variability observed in current practice.

Secondly, organisational proposals point to the need to integrate double materiality into the internal governance of organisations. Assigning explicit responsibilities related to the different areas involved (management, finance, operations, sustainability, human resources) and to establish cross-cutting coordination mechanisms to ensure consistency between materiality analysis and strategic planning, are proposed. Another proposal involves setting up interdepartmental committees or working groups to periodically review the results of the analysis, updating priorities and ensuring the continuity of the process beyond the reporting exercise. This approach aims to transform materiality into an institutionalised and dynamic practice, geared towards continuous organisational learning.

The third area for improvement is training and awareness-raising. There is consensus among experts that one of the main obstacles identified is the lack of conceptual understanding of the purpose and

scope of double materiality. Therefore, they recommend developing training programmes for both managers and technical staff, focusing on the interpretation of impacts, participatory stakeholder management, and the use of analysis and traceability tools. This line of action is considered essential to raise the level of institutional maturity and to ensure that organisations do not approach double materiality as a bureaucratic exercise, but as a sustainable value management process.

Finally, structural proposals refer to the creation of ecosystems of support and inter-organisational cooperation. Experts suggest promoting sectoral platforms and collaborative networks that facilitate the exchange of best practices, the generation of data in common, and the dissemination of shared methodologies. Similarly, the implementation of public or fiscal incentives for the adoption of good materiality practices is proposed, as well as the progressive incorporation of sustainability assessment criteria in public procurement and in access to financing. These measures would help align business interests with sustainability objectives, thus strengthening the social legitimacy of the process.

Taken as a whole, these proposals form a comprehensive path towards improvement which combines technical standardisation with participatory governance. The results of the Delphi study appear to agree that double materiality will only reach its full potential if it becomes an institutional, shared and verifiable learning system, capable of connecting real impacts with corporate strategy and translating sustainability into tangible economic and social value.

5.1.5. Round 1 Summary

Overall, the results of the first round of the Delphi study allow us to outline a structured view of the main factors that influence the effective implementation of double materiality (DM) in Spanish organisations. The analysis of the responses reveals broad agreement on cultural and methodological brakes, which place materiality at a still-incipient stage of development, closer to regulatory compliance than to strategic management. Organisations tend to approach the process as a formal exercise, influenced by the mandatory nature of CSRD, leading to a focus on documentation and accountability, but weakly connected to value generation or organisational learning.

At the same time, experts have identified accelerators and opportunities that could transform this scenario, highlighting the role of leadership, ESG mainstreaming and methodological reinforcement as necessary conditions for materiality to evolve into a strategic governance tool. The weaknesses in traceability that were identified –lack of homogeneity, scarcity of resources, lack of internal coordination and lack of national or sectoral guidelines– confirm the need to move towards more systematic and verifiable processes. Proposals for improvement point to the consolidation of four complementary lines of action: methodological development, organisational institutionalisation, technical training and inter-institutional cooperation.

To sum up, this first round allows for a preliminary mapping of the challenges and potentials of double materiality, providing a solid empirical basis to guide the next phases of the study. The results reflect both the diverse nature of existing approaches and a shared trend towards consistency, standardisation and participatory legitimacy, all of which are essential elements for boosting the strategic role of materiality analysis within the new European sustainability framework.

5.2. Delphi Study Round 2

Following the preliminary identification of the main brakes, accelerators, weaknesses and proposals for improvement during the first round of the Delphi study, the second round was designed to quantitatively validate and prioritise the ideas obtained. The purpose of this round is to assess the degree

of consensus among experts and to determine the relative importance of each factor in order to build a hierarchy of critical elements for the strategic implementation of double materiality (DM).

For this purpose, a structured questionnaire was drafted according to the categories that emerged from the first phase, which was sent to the panel of experts while maintaining the confidentiality and anonymity of the responses. Each participant was asked to rate the importance or relevance of the ideas identified using a five-point Likert scale (1 = "not at all important/irrelevant", 5 = "very important/relevant"), distinguishing between the thematic blocks of brakes, accelerators, weaknesses and improvements. Additionally, for high-scoring items (4 or 5), empirical examples or concrete experiences were requested in order to enhance the interpretation of the results and to contextualise the assessments in terms of professional practice by the experts.

This second round makes it possible to transform the qualitative results into comparable and quantifiable data, providing an empirical basis for analysing the level of agreement among participants and to validate the consistency of the categories identified. Through this process, the aim is to move from the open-ended exploration of the first phase towards a structured consolidation of consensus, facilitating the identification of priority elements dictating the methodological and governance proposals to be developed in the final stage of the study.

The information obtained in the second round of the Delphi study was subjected to a descriptive and comparative statistical analysis, in order to assess the degree of consensus between participants and to determine the relative importance of each item. First, the absolute and relative frequencies of the scores given to each category were calculated, which made it possible to identify the elements with the greatest convergence of judgement within the panel. Averages (arithmetic mean) and standard deviation were then estimated for each item in order to simultaneously measure the level of agreement and the dispersion of responses. Thus, those factors with high mean values (≥ 4.0) and low dispersion ($\sigma \leq 1$) were deemed a priority, reflecting substantive agreement between experts (Landeta 2006; Okoli and Pawlowski 2004).

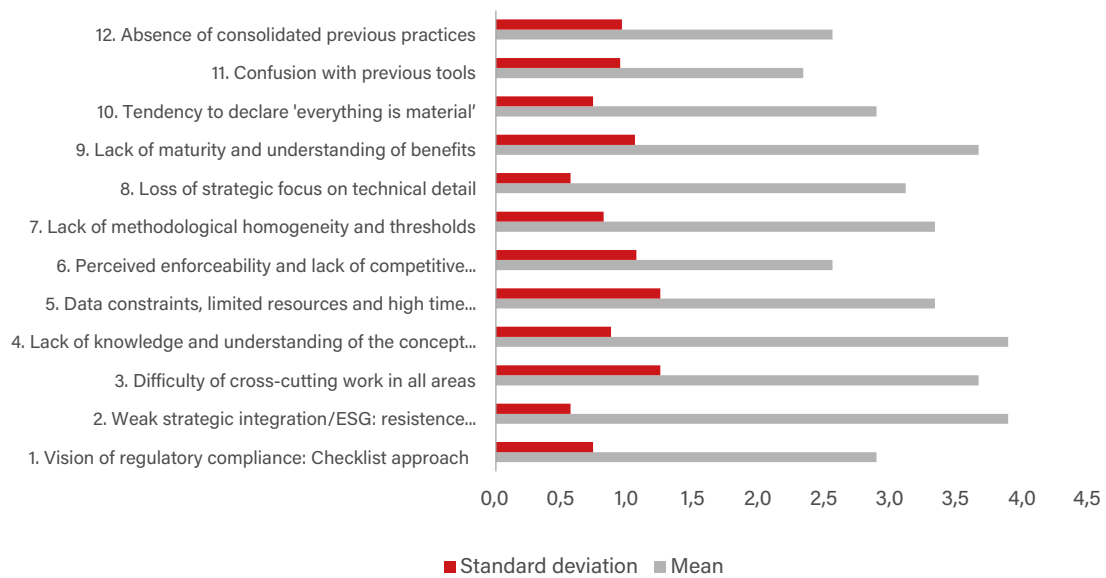
A comparative analysis by thematic blocks –brakes, accelerators, weaknesses and proposals for improvement– was also conducted in order to observe possible differences in the perception of relevance between the different areas of the double materiality process. This approach enabled the detection of areas of greater sensitivity or dissent, providing a more nuanced view of the results. At the same time, the qualitative contributions collected in the justifications and empirical examples were codified and triangulated with the quantitative results, following a mixed approach that reinforces the interpretative validity of the study.

As a whole, the analysis seeks to move from description to structural validation, making it possible not only to identify the most relevant issues, but also to quantify the level of expert consensus regarding each of them. This procedure forms the basis for the third round of the Delphi study, in which the aggregate results are presented to the panel in order to promote the critical review of the assessments, and to formulate consensual and operational improvement proposals for the integration of double materiality in organisational practice.

5.2.1. Quantitative Results

The following graphs display the main quantitative results of this second round of the Delphi study. The blue line represents the importance given to each factor by the participating experts, calculated as the mean; the red line represents agreement or disagreement between participants (increasing in size as disagreement increases), calculated as the standard deviation.

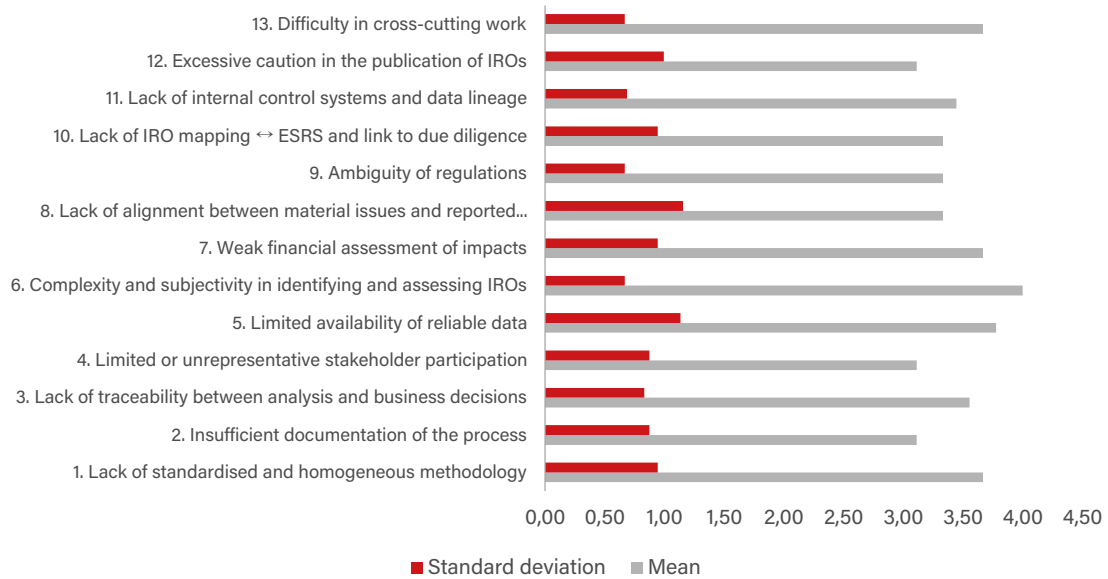
//// **GRAPH 1 The importance of brakes**



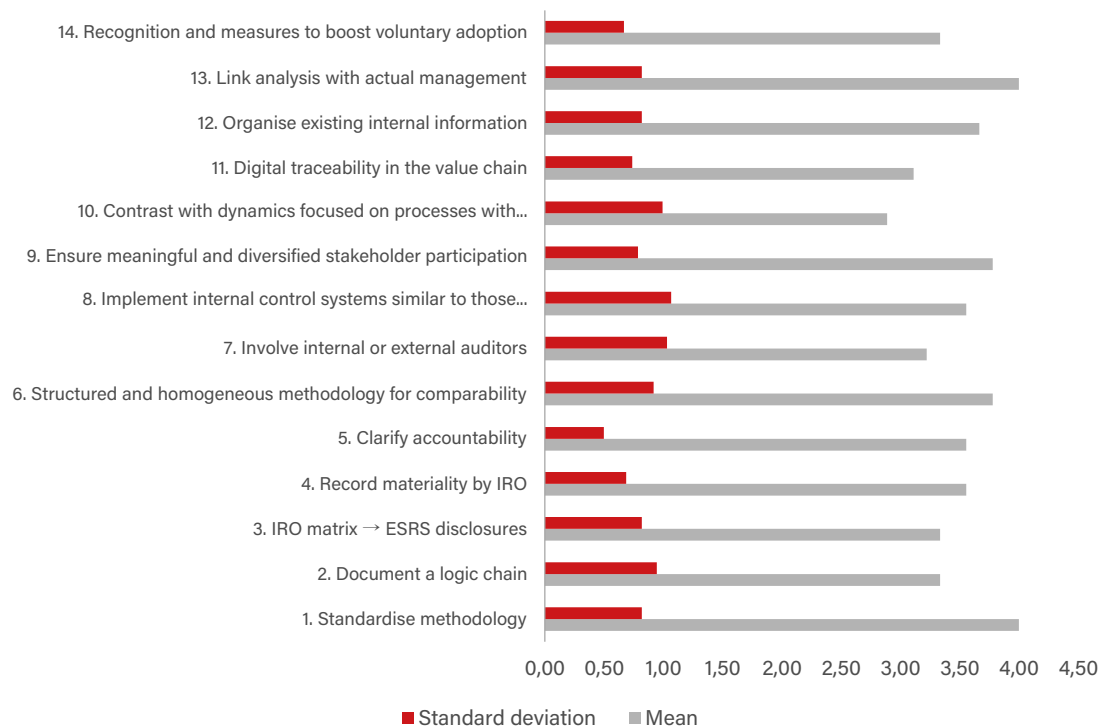
//// **GRAPH 2 The importance of accelerators**



//// **GRAPH 3 Importance of problems**



//// **GRAPH 4 The importance of improvements**



5.2.2. Qualitative Results

The second round confirms an uneven maturity of the double materiality approach across organisations and sectors. There is a knowledge gap and a predominantly instrumental vision, although there are also clear accelerators linked to leadership, investment pressure and methodological standardisation. The results show that the key to progress lies in consistency between governance, methodology, data and traceability, as well as in the creation of institutional learning mechanisms and progressive transparency.

The analysis of the responses obtained in the second round of the Delphi process enabled progress from an initial qualitative description towards a more structured understanding of the factors that determine the effectiveness and limits of double materiality (DM) analysis within the Spanish organisational context. The experts' assessments confirm that the process continues to be influenced by a combination of cultural, methodological, operational and contextual factors, which together explain the difficulties of implementation and the disparity in approaches between organisations and sectors.

Firstly, the results highlight the importance of leadership and governance as critical to the consolidation of double materiality. Most experts agree that the absence of explicit CEO or senior management leadership is a structural obstacle that relegates the process to a technical or departmental level, devoid of strategic vision. Setting up formal governance structures, such as project-management-offices (PMO) or steering committees that review progress on a regular basis, is deemed a necessary condition to ensure institutional consistency and continuity over time. Without this hierarchical alignment, materiality tends to evolve in functional "silos", with little connection to corporate planning or resource allocation.

Closely related to the above, organisational culture and internal capabilities emerge as another major conditioning factor. Experts describe a recurring reductionist pattern perception, where sustainability is interpreted as a compliance or reporting task –a regulatory checklist– and not as a strategic dimension. This approach is associated with a lack of technical and conceptual understanding of the scope of CSRD and the double materiality principle, especially in organisations lacking specialised teams. Hence, training structured by roles and levels is a priority, both to boost managerial understanding and to equip technical staff with consistent analytical tools.

At the methodological level, the panel's contributions reflect a clear demand for homogenisation and standardisation of criteria, especially with regard to defining relevance thresholds and comparability between sectors. Differences in the interpretation of what constitutes a "significant" impact or a "relevant mitigation cost" lead to wide variability in the results. It also points to the need for shared taxonomies and explicit rules to distinguish between material and non-material impacts more objectively. These observations confirm the existence of a methodological asymmetry, where organisations operate without common references and rely excessively on internal interpretation or external consultants, which compromises the credibility and reproducibility of the process.

Another central block of results relates to the data and metrics used. Experts underline the structural fragility of ESG information systems, characterised by heterogeneity of sources, lack of traceability and the widespread use of proxies or unverified estimates. This reliance on incomplete or inconsistent data not only makes it difficult to make year-on-year comparisons, but also weakens the ability to link analysis to decision-making. To counter this, it is proposed to develop a common minimum ESG data model, supplemented by a corporate catalogue of accepted proxies to ensure internal consistency and facilitate auditing.

The traceability and transparency of the materiality process remains one of the weakest points of the system. Experts point to a gap between impact identification and corporate decision-making in the logical value chain, so that the results of analysis are not always translated into targets, budgets or KPIs. Additionally, excessive caution is observed in the external communication of significant material impacts (IROs), which limits transparency and reduces the usefulness of the report for stake-

holders. To strengthen traceability, it is recommended to establish systematic procedures linking each material issue to its corresponding strategic decision and allocated budget, allowing for the documentation of the evolution of remedial actions.

From a contextual perspective, participants agree that regulatory instability and lack of inter-institutional coordination are factors of uncertainty that erode the credibility of the process. The "regulatory back-and-forth" and overlapping standards generate methodological confusion and make medium-term planning difficult. Against this scenario, experts highlight the potential of sectoral and collaborative initiatives as mechanisms for practical homogenisation, capable of creating shared references and reducing fragmentation.

Finally, the second round highlights a set of improvement levers that experts consider to be a priority in order to consolidate double materiality as a strategic tool. These include the direct involvement of senior management, professional qualifications of technical staff, the integration of ESG metrics into corporate dashboards and the promotion of progressive transparency, balancing reporting prudence with accountability. These measures are complemented by a vision of progressive maturity, whereby double materiality should evolve from a technical compliance exercise to a system of organisational learning and sustainable value creation.

To sum up, the results of this second round reveal a strong consensus on the need for greater consistency between governance, methodology, data and traceability, as well as on the importance of implementing sustainability around verifiable decision-making structures. Double materiality, in this sense, appears not only as a regulatory requirement, but also as an area of convergence between technical knowledge and social responsibility, whose implementation will depend on the capacity of organisations to integrate the principles of participation, transparency and methodological rigour in their management systems.

Overall, the results of the second round of the Delphi study consolidate a shared diagnosis of the current situation of double materiality (DM) within the Spanish organisational context. Experts agree that the main challenge lies not only in the technical complexity of the process, but also in the lack of systemic consistency between governance, methodology, data and traceability. There is a structural imbalance between the regulatory maturity of European standards (CSRD and ESRS) and the actual capacity of organisations to apply them in a homogeneous, verifiable and value-oriented manner. However, the consensus reached at this stage also reveals a set of transformation levers –managerial leadership, technical professional qualification, standardisation of criteria and cross-sectoral collaboration– that offer a promising framework for the evolution of materiality towards a strategic management model.

This second phase therefore represents a methodological turning point: it allows us to move from a descriptive understanding of the problems to a precise delineation of the areas for improvement on which to work in the next stage. The findings provide a solid empirical basis for the third round of the Delphi study, aimed at formulating and comparing concrete proposals for action to boost double materiality as a tool for sustainable governance. In this phase, experts will be invited to assess the feasibility and applicability of the suggested solutions, thus contributing to drafting a set of **agreed** recommendations integrating the technical, institutional and cultural dimensions of the process.

5.2.3. Examples

The qualitative analysis of the answers provided by the experts in the second round of the Delphi process clearly identifies the main problems observed in the practical application of the double materiality (DM) analysis. The examples given illustrate both the diverse nature of existing approaches and the structural weaknesses that limit the effectiveness of the process in organisational practice.

1. Cultural and organisational factors

One of the most highlighted problems is the reductionist view of sustainability as a compliance exercise. Several participants described how internal areas approach DM "as a checklist to be completed", without understanding its strategic potential. This bureaucratic approach results in siloed work by departments, without a cross-cutting approach or a clear connection to decision-making. This is compounded by a lack of organisational maturity and widespread ignorance of the CSRD: "We went to the areas and they hadn't even heard of the CSRD, and those that had, didn't understand double materiality. This lack of training prevents us from recognising that the process not only fulfils an obligation, but that "it is an opportunity to showcase what the organisation does". In this same block, experts mention cultural resistance towards integrating ESG criteria into the corporate strategy, the product of a financial inertia that still prevails in management structures.

2. Methodological factors

Methodological problems revolve around the lack of homogeneity in approaches and the absence of clear thresholds for determining what constitutes a relevant impact. One expert summarises the problem thus: "In financial metrics there are standards, but what is too much pollution? What is excessive water consumption? It's not the same for a bank as for a factory. This lack of definition generates a high degree of arbitrariness in impact assessment and compromises comparability between entities. Another aspect mentioned is the confusion between previous tools and new methodologies: "we often reinvented the wheel, using similar ideas in different departments", reflecting a lack of process consolidation and poor internal coordination.

3. Operational and resources factors

At the operational level, the difficulty of cross-cutting work is perceived as one of the major barriers. Sustainability teams encounter resistance from other areas –accustomed to financial reporting– which prevents them from developing a collaborative dynamic. The lack of robust data of consistent quality appears repeatedly as a cross-cutting obstacle. Specific problems are mentioned in the collection of information on physical risks, energy efficiency or environmental performance in financed SMEs: "sometimes there were data and sometimes proxies, but working with both was time-consuming". This reliance on incomplete data not only slows down the process, but also reduces the reliability of the results. Experts also point to time and human resource constraints, which mean that analyses have to be carried out "in a hurry", with no room for strategic reflection.

4. Governance and leadership factors

Several examples show the importance of management support as a driving force for the process. Organisations where the top management is actively involved –e.g. by integrating DM into a project-management-office (PMO) or reviewing it in the executive committee– display significantly higher commitment in the areas: "If top management is involved, all areas commit to performing more detailed work in a timely manner". On the contrary, a lack of visible leadership leads to poor coordination and reduced internal legitimacy: "It's very difficult to do it well without the CEO's support; in our case, there was no such support and we had to work twice as hard". This correlation between executive leadership and methodological maturity reinforces the idea that DM cannot be consolidated as a strategic tool without explicit encouragement from senior management.

5. Regulatory and contextual factors

Experts also highlight the instability and complexity of the European regulatory environment as a major brake. Regulatory back-and-forth' –in both CSRD and ESRS– hampers planning and undermines the credibility of the process, generating mistrust even among the areas involved: "The fact that the standard is in process of implementation detracts from its legitimacy; the areas say: 'when

they finish the standard, I'll look at it". This uncertainty has a direct impact on the willingness of organisations to invest in robust methodologies or stable ESG data systems. This is compounded by a lack of competitive incentives: some companies perceive DM as an additional cost rather than a differentiating factor or added value.

6. Traceability and transparency factors

The answers point to a structural deficit in the link between materiality analysis and business decisions. Although the analysis is performed, the results are rarely translated into action plans, budgets or monitoring indicators. Excessive caution in the publication of IROs (impacts, risks and opportunities) reinforces this gap between analysis and management: "Negative impacts will never be completely true to the company's public image, so they are reported with caution". Moreover, some experts decry the use of the net approach –which considers certain risks to be compensated for– as a way of making significant impacts invisible: "Significant resources are allocated to compensate for them, which shows that they are indeed material". These observations highlight the need to move towards full traceability linking the analysis-decision-budget-KPI cycle.

All in all, the qualitative testimonies reinforce the conclusions drawn in the previous phase: there is still a gap between the regulatory purpose of double materiality and its effective implementation, stemming from a lack of leadership, methodological inadequacy and poor articulation between data, processes and decisions. The examples provided not only illustrate current obstacles, but also provide a valuable empirical foundation for guiding the recommendations for improvement to be developed in the third round of the Delphi study.

Taken together, these quotations confirm that problems in the implementation of double materiality are not due to a single origin, rather to a convergence of cultural, technical and structural factors. The defensive view of compliance, the lack of homogeneous standards, the scarcity of resources and the weak connection between governance and data create a scenario in which analysis loses its transformational capacity. These statements provide a solid empirical basis for the third round of the Delphi study, aimed at reaching consensus on measures to promote institutional maturity, methodological consistency and full procedural traceability..

5.3. Delphi Study Round 3

5.3.1. Qualitative results of Round 3

(Question 1) "Given the inherent complexity of conducting a double materiality analysis, how could the analysis process be improved?"

Expert responses converge on the need to transform double materiality (DM) analysis into a simpler, more homogeneous and strategic process, capable of generating real value beyond regulatory compliance. In general terms, the contributions are grouped into four main lines of improvement: methodological simplification, sectoral homogenisation, training and cross-cutting leadership, and strategic alignment of the process.

1. Methodological simplification: "Less is more":

Participants almost unanimously agree on the need to reduce the excessive complexity of the current analytical model, described by some as an exercise in "analysis paralysis" in the face of more than 1,700 data points proposed by the ESRs. Most propose an approach based on progressive prioritisation, focusing on a limited set of critical indicators (between 25 and 40) that represent the issues that are truly relevant to the sector and the business model. This core should be subject to a thorough analysis, while the rest could be dealt with on a comply or explain principle, briefly justifying their non-materiality. The key –in the words of one of the experts– is to "free up resources to go deeper

into what really matters", preventing double materiality from becoming a bureaucratic exercise that consumes efforts without generating learning.

2. Sectoral homogenisation and standardisation:

Another highlighted line of improvement is the need to harmonise methodologies and materiality thresholds between organisations within the same sector, in order to improve information comparability and credibility. Experts stress that it is unreasonable for "two banks or two textile companies to reach opposite conclusions" on their impacts, simply because they use different internal methodologies. They therefore propose the creation of common sectoral guidelines, driven by EFRAG or business associations, that define criteria for the identification, prioritisation and assessment of both quantitative and qualitative impacts. The use of standardised templates and digital tools is also suggested, facilitating data collection, traceability and external verification of results.

3. Training, leadership and governance of the process:

Experts agree that DM cannot be consolidated without the active involvement of the top management and financial management, even proposing the creation of a hybrid figure –the *climate and finance officer*– capable of integrating ESG information into risk, valuation and strategic decision-making models. There is a need for specific training for both sustainability and finance teams, aimed at understanding DM as a management tool and not just a reporting tool. Some participants suggest establishing a high-level Project Management Office (PMO), with monthly participation of the heads of all areas to ensure strategic consistency, monitoring of results and accountability. This cross-cutting governance would boost the connection between materiality, corporate strategy and risk management.

4. Conceptual alignment and strategic focus:

Several experts insist on the importance of conceptually clarifying the distinction between internal and impact materiality, avoiding methodological confusion. They propose that the process should always begin with internal materiality, using it as an initial filter, and then assess impact materiality from the perspective of social and environmental effects. According to them, this order helps to maintain a more coherent analytical framework and to avoid thematic dispersion. It also underlines the need to communicate internally that a non-material issue does not imply a lack of relevance of the responsible area, but a technical delimitation within the framework of analysis. On a more theoretical level, one expert suggests incorporating the logic of "impact economics" as a conceptual reference, separating internal analysis (effects on business sustainability) from external analysis (effects on the socio-economic and environmental system), and weighting both according to minimum and maximum sustainability thresholds.

Overall, the contributions reflect a shared view that the future of double materiality depends on its evolution from a compliance tool to a strategic management model, based on three pillars: clear methodology, institutional leadership and value orientation. Improving the process requires simultaneous progress in technical simplification, sectoral consistency and organisational capacity building, so that the analysis not only complies with the CSRD, but also makes an effective contribution to sustainable value creation and the ethical transformation of the economy.

(Question 2) "Having identified the shortage of specialised training as a critical obstacle, what are the essential contents and/or skills that should be taught, and what is the target audience for this training?"

The experts' contributions reveal a broad consensus: the lack of technical and strategic capacity building is one of the main bottlenecks to the effective implementation of double materiality (DM)

analysis. Training is therefore seen not only as an instrumental requirement, but as a structural condition for organisations to advance from formal compliance to an effective integration of sustainability into management. The responses make it possible to distinguish three complementary dimensions: training content, target profiles and methodological approach to training.

1. Training content: from regulation to risk modelling

Experts agree that training should go beyond the regulatory knowledge of CSRD or ESRS and focus on understanding the links between sustainability, risk and business strategy. In this sense, a content structure combining four main blocks is proposed:

Advanced double materiality methodologies, aimed at demonstrating the inter-connection between impact risks (effects of the company on the environment) and internal risks (effects of the environment on the company). This inter-connection forms the basis for justifying why an environmental or social issue should be included in internal risk models or financial planning.

ESG risk assessment and modelling, emphasising the use of tools such as scenario analysis (e.g. TCFD) and quantifying the financial impact of climate change, biodiversity loss or social risks. The goal is to train professionals who can translate these impacts into financial terms, incorporating them into the balance sheet, the income statement and the cost of capital.

Non-financial data governance, aimed at boosting the traceability, quality and verifiability of ESG information. The participants point out that non-financial data must meet the same level of rigour as financial data to ensure the reliability of reasonable assurance.

They mention cross-cutting skills, such as ESG indicator management, stakeholder engagement, corporate governance and integrated reporting, which allow sustainability to be contextualised within the business model.

Some experts extend this framework to include training in climate change, circular economy, biodiversity, human rights and the value chain, as well as social accounting, analytical accounting, economic theory, sociology, econometrics and STEAM (science, technology, engineering, art and mathematics) approaches, underlining the interdisciplinary nature of the field.

2. Target profiles: cross-cutting and co-responsible vision

Training should cover all organisational levels, with a cross-cutting approach that avoids concentrating knowledge in sustainability departments. Three target groups appear on a repeated basis:

Senior management and boards of directors, whose training should focus on the strategic, reputational and governance understanding of DM (especially aspects covered by the ESRS G1 standard). They are expected to integrate ESG risks and opportunities into the overall corporate governance framework (ERM).

Financial and risk management, considered the technical core of the process. The consolidation of a new hybrid figure, the *climate and finance officer* is suggested, a office capable of connecting the financial and climate fields through risk modelling and the valuation of sustainable assets.

Sustainability, reporting and compliance departments, responsible for coordinating data collection and analysis, managing stakeholder relations and applying impact materiality methodologies.

Several participants also underline the need to involve operational and data units, which are often the ones who provide critical information, yet lack specific training. They also point out that the ideal educational profile should include financial and legal knowledge (BMA, law), but also technical understanding of the business (engineering, production or energy), favouring multidisciplinary and collaborative teams.

3. Methodological approach to training: from compliance to organisational leadership

Beyond the contents, experts agree that training should be understood as a tool for cultural transformation and leadership, not just as a response to technical problems. Some propose the creation of specialised academic programmes and university modules focusing on sustainability in reporting and business management. Others suggest the implementation of modular corporate training, with sessions tailored to the role of each organisational level.

The importance of top management leading and actively supporting the process is also highlighted, incorporating DM as part of the organisation's overall strategy. In the words of one expert, "training should not just be about teaching compliance, but about understanding how materiality analysis can generate competitiveness and value".

The range of responses suggests that professional training in double materiality requires comprehensive literacy in corporate sustainability, based on an interdisciplinary approach and shared responsibility. The current lack of training cannot be solved by isolated or technical courses, but by an educational and organisational ecosystem that connects sustainability with strategy, risk and value creation. Training thus ceases to be an auxiliary means of support and becomes a vector of institutional maturity and the main booster of the transition towards a sustainable economy.

(Question 3) "ESRS standards foresee the development of sector-specific standards. What should be the sectors to start with, and why?"

Expert responses reveal a broad consensus on the need to develop sector-specific standards to boost the comparability, relevance and consistency of sustainability reporting under the CSRD. Although some participants point out that the recent Omnibus Regulation has postponed or limited this possibility, most agree that its implementation would be key to provide methodological consistency to the double materiality (DM) analysis, tailoring the requirements to the risks and specific characteristics of each sector.

Inputs may be grouped under three priority levels, defined by the dominant type of materiality (environmental, economic or social) and by the systemic scope of the impacts.

1. Priority 1: Sectors of high environmental and climate materiality

Experts are unanimous in prioritising the sectors with the greatest direct impact on the environment and climate, i.e. those linked to greenhouse gas emissions, energy consumption and natural resource management. These include energy, heavy industry (cement, steel, chemicals) and transportation. It is argued that exogenous impact (from the company to the environment) is at a maximum in these sectors, therefore the definition of specific metrics –such as indicators of energy transition, decarbonisation or resource efficiency– would have a multiplier effect on reporting consistency.

The importance of sectors with high water consumption risk, such as agriculture, food and utilities, is also underlined, especially in relation to the ESRS E3 standard (water and marine resources). Addressing these areas first would make it possible to respond to the EU's main environmental urgencies and generate lessons that can be transferred to other sectors.

2. Priority 2: Sectors of indirect or systemic financial materiality

Secondly, sectors influencing sustainability through capital and financial intermediation, rather than exerting direct physical impacts, are highlighted. The financial sector –which includes banking, insurance and investment funds– is consistently among the most cited. Its importance lies in its role as an enabler of sustainable transition, since investment and credit decisions play a decisive role in the environmental and social performance of the rest of the economy. The experts propose that their sectoral standards should focus on alignment with the European taxonomy, transitional risk assessment and exposure to Scope 3 emissions.

Holding companies and conglomerates are also mentioned, for which guidelines are required in order to regulate the consolidation and management of ESG risks in structures with multiple subsidiaries. According to several participants, these sectors act as systemic nodes whose transparency could drive the adoption of good practices throughout the value chain.

3. Priority 3: Sectors with high social and relational materiality

On the social side, experts recommend prioritising sectors with high exposure to supply chain risk and direct interaction with vulnerable consumers or communities. Textiles, retail, food and essential services (electricity, water, telecommunications) are repeatedly mentioned. These sectors focus on issues such as working conditions, human rights and accessibility, which are key topics in the ESRS S1-S4 standards. One expert stresses, for example, that utilities "must be held accountable for pricing, universal access and energy poverty", noting that the social dimension of sustainability requires as structured a treatment as the environmental one.

4. Discussions and contextual nuances

Some participants take a more critical view, pointing out that the development of sectoral standards could lead to excessive complexity if not accompanied by simplification and homogenisation mechanisms. Others recall that, according to the latest regulatory update, the European Commission has temporarily suspended the development of new sectoral ESRS, forcing organisations to use the GRI sectoral standards as an interim reference in the meantime.

Despite these limitations, the general consensus is that prioritisation should be based on combined double materiality criteria: selecting sectors with simultaneously high environmental impact risk and internal systemic relevance, thus maximising the comparative value of the process. Some experts even propose a mixed prioritisation framework –by impact, size and type of ownership– distinguishing between for-profit and non-profit entities, or between large corporations and SMEs, in order to adjust the requirements to the reality of European businesses.

The responses reveal a mature and pragmatic view on the implementation of sectoral standards: start where the greatest impact may be achieved. Energy, heavy industry, the financial system, agri-food and essential services appear as priority strategic sectors, both for their environmental footprint and their multiplier effect on the economy and society. In theoretical terms, experts conceive of sectoral standardisation not as an additional burden, but as an instrument of regulatory precision and collective learning, capable of translating double materiality into an operational framework for sustainable management.

(Question 4) "Effective integration of double materiality analysis requires rigorous data traceability and cross-departmental mainstreaming. How could they be addressed?"

The experts' responses reveal a cross-cutting concern regarding the lack of traceability and organisational coordination in ESG data management. For most, the main challenge is not technological, but one of governance and institutional architecture: sustainability information is siloed across different departments –finance, operations, human resources or legal– without effective mechanisms for integration, control and verification. The proposals are aligned along three main axes: data governance, organisational mainstreaming and hierarchical and accounting alignment.

1. Data governance: towards "sustainability accounting" (Social Accounting)

Experts agree that data traceability will only be achieved when ESG data reaches the same level of rigour, consistency and auditability as financial data. It therefore proposes "accounting for sustainability", in which the processes of collection, validation and internal control are brought in line with those of economic reporting. This alignment requires documented procedures, approval flows and internal and external quality controls, ensuring the reliability of reports and their future assurance.

Several participants have highlighted the need to institutionalise the figure of a Chief Data Officer (CDO) or an ESG data governance officer, responsible for ensuring methodological consistency and the integrity of records. The main functions of this role would be to

1. Develop common, cross-cutting ESG data dictionaries that unambiguously define the calculation and measurement methodologies for each material indicator (e.g. employee turnover or Scope 3 carbon footprint).
2. Design data maintenance and handling controls, replicating the internal oversight discipline of the financial domain.

This figure would act as a technical guarantor and internal regulator of the process, reinforcing data quality and traceability, and preparing the entity for reasonable external assurance under the CSRD.

2. Organisational mainstreaming: breaking down information silos

Respondents stress that mainstreaming can only be achieved through a shared technological infrastructure and collaborative governance. Integrated ESG reporting platforms are proposed, where all departments enter data into a common repository, with defined workflows and verifiable traceability. These tools should allow both data aggregation and its cross-checking between areas, fostering interdepartmental cooperation.

In parallel, it is recommended that standardised internal protocols be established to regulate data capture, validation and reporting procedures, assigning clear responsibilities for each indicator. Experts insist that "without well-defined ownership, sustainability is diluted between areas". To reinforce this co-responsibility, the creation of interdepartmental sustainability committees is proposed, involving representatives from finance, sustainability, operations, human resources and audit, ensuring a global vision and joint decision-making. In line with this vision, some participants suggest the use of project-management-offices (PMO) or cross-cutting monitoring units, reporting directly to top management, which would allow the process to be coordinated, progress to be monitored, and the results to be demanded on a regular basis.

3. Hierarchical and structural alignment: visible leadership and data culture

A recurring theme in the responses is the need to reposition the sustainability function within the corporate organisation chart. Several experts argue that the Chief Sustainability Officer (CSO) should report directly to the CEO and have the status of a staff body, not a line manager, which would allow him or her to act as a facilitator for the other departments without entering into conflict with executive areas. This model would encourage sustainability to be perceived as a cross-cutting corporate asset, which any department can draw on without fearing loss of autonomy or resources.

It is also suggested to boost the involvement of senior management in overseeing the process, ensuring that DM and ESG reporting are part of regular executive committee or board reviews. This managerial visibility is seen as a prerequisite for overcoming the cultural resistance that still considers sustainability to be a secondary or ancillary area. Finally, some participants propose transfer analytical accounting and activity-based budgeting (ABC) techniques to the field of sustainability, developing true social accounting with the aim of distributing indirect costs, identifying efficiencies and linking non-financial impacts to concrete transactions. This approach would allow ESG information to be fully integrated into economic and business planning, reinforcing consistency between the two accounting systems.

The contributions reveal a shared understanding that traceability and mainstreaming are not technical problems, but institutional governance issues. For experts, the success of the double materiality analysis will depend on organisations making three complementary advances:

- a) Equating non-financial data with financial data in terms of rigour, control and assurance.

- b) Building collaborative governance structures, eliminating silos and assigning clear responsibilities.
- c) Endowing the sustainability function with visible leadership and institutional legitimacy.

Ultimately, double materiality cannot be consolidated without an integrated organisational infrastructure, where sustainability is no longer an isolated department but an operational principle that guides management, accountability and decision-making at all levels.

The four questions of the third round converge in a common vision: the maturity of double materiality depends on three interrelated factors:

1. Methodological simplification and standardisation, enabling efforts that focus on truly material indicators.
2. Development of organisational capacities and cross-cutting leadership, where senior management and financial areas assume sustainability as a strategic dimension.
3. Comprehensive data governance and traceability, ensuring data reliability and comparability.

Considered as a whole, the experts outline a clear roadmap for the transition from a formal and defensive materiality towards a strategic, verifiable and relational materiality, consistent with the objectives of the CSRD and the principles of European sustainable value.

5.4. Biases identified in the double materiality process

The qualitative analysis of the three rounds of the Delphi method identified several recurring biases in how organisations approach the process of double materiality analysis. These biases, implicitly acknowledged by experts, reveal structural tensions between regulatory compliance, effective stakeholder participation and methodological objectification of impacts. The most significant of these are described below.

5.4.1. Self-scoping bias

This bias appears repeatedly in the experts' observations when they point out that companies define in advance the issues to be considered of material importance, without previously checking with stakeholders or a verifiable empirical basis. Several participants alluded to this practice when describing the tendency of many organisations to "anticipate the relevant issues" based on their own corporate narrative, and then to limit consultation to the weighting of those already selected issues. According to experts, this unilateral anticipation conditions the entire chain of analysis: stakeholders are not involved in the identification phase, but only in the validation phase, which generates an effect of methodological circularity. In practice, the organisation self-scopes the range of assessable impacts, excluding potentially critical issues –for example, social, institutional or territorial impacts– that could upset its reputational balance.

5.4.2. Representativeness or convenience bias

The experts also identified that participant selection in materiality processes is often prone to institutional affinity or reputational convenience biases. In the initial rounds of the Delphi study, several participants pointed out that organisations tend to consult with like-minded actors –business associations, consultancies, NGO partners– leaving out potentially critical groups such as trade unions, consumers or affected local communities. This bias compromises the participatory legitimacy of the process and reduces the epistemic diversity required for a balanced assessment. Moreover, experts

warn that in environments with little culture of structured dialogue, this lack of plurality reinforces the superficial alignment between corporate discourse and material outcomes.

5.4.3. Confirmation bias

There was a clear allusion to the tendency of organisations to confirm their own strategic narrative in several responses, especially those concerning organisational and cultural brakes. Experts stressed that double materiality is often interpreted not as a tool for discovery, but as a mechanism to validate existing policies. Thus, when the results of the analysis match previously defined sustainability objectives, they are reinforced, while results that contradict them are minimised or reformulated. This phenomenon reflects a defensive assimilation of the exogenous impact, which prevents the materiality process from generating organisational learning or strategic questioning.

5.4.4. Checklist bias

The so-called "checklist approach" was one of the most frequently cited brakes in the first round of the Delphi study. The experts agreed that many companies approach materiality analysis as a compliance exercise, focused on generating visual matrices and formal scores, without a thorough analysis of the interdependencies between issues. This checklist bias leads to a loss of strategic meaning: the process becomes a reporting exercise with zero interpretative value. By establishing a complex structure of *data points*, the CSRD itself runs the risk of exacerbating this phenomenon if there is no accompanying prioritisation criteria and qualitative methodologies that make it possible to discern essential issues from ancillary ones.

5.4.5. Financial or economic bias

Economic bias is observed in the responses linked to the financial tunnel vision hypothesis and the lack of ESG integration in the strategy. Many experts warned that, in practice, internal or endogenous materiality is interpreted exclusively from the perspective of economic or financial risk, ignoring long-term social, reputational or institutional impacts. This approach, inherited from traditional financial logic, restricts double materiality to a calculation of immediate risks, preventing the recognition of social or environmental value as structural components of organisational resilience. In the words of one participant, "as long as DM remains in the financial silo, it will never be strategic".

5.4.6. Methodological ranking bias

Several experts criticised the lack of homogeneous and transparent criteria for assigning relevance weights or thresholds within materiality matrices. This lack of standardisation leads to arbitrary or barely comparable results, even between companies in the same sector. Methodological ranking bias is reinforced when weights are assigned without empirical justification –for example, using scales of 1 to 5 with no statistical or deliberative basis–. Participants proposed counteracting this through sectoral homogenisation driven by EFRAG or professional associations, as well as inter-institutional validation mechanisms to reduce analytical discretion.

5.4.7. Strategic omission bias

Finally, some experts mentioned the tendency of certain organisations to exclude potentially controversial issues or ones with reputational implications. This bias manifests itself both in the initial definition of the materiality scope and in the selection of reportable subjects. The most frequently cited examples include omitting issues such as corruption, tax evasion or institutional governance, which are considered "uncomfortable topics" due to their reputational risk. Experts interpret this phenom-

enon as a strategy to control the corporate narrative, incompatible with the principle of substantive transparency underpinning the CSRD and the ESRS.

Overall, the biases detected reflect that double materiality, despite its potential for transformation, is still practised within an interpretative framework dominated by reputational control, financial inertia and procedural formality. The experts agree that overcoming these biases requires moving towards:

1. Open and empirical identification processes, where stakeholders are involved from the initial definition of the issues onwards.
2. Mechanisms for transparent and pluralistic selection of interested representatives.
3. Harmonised and auditable methodological protocols to ensure traceability and comparability of results.
4. True integration of social judgement and non-financial data into strategic planning.

Only by means of this evolution can we move from a defensive and self-justifying materiality to a deliberative and transformative materiality, consistent with the purpose of corporate sustainability as a public good.

6 Conclusions

6.1. From materiality as compliance to materiality as strategic governance

The results of the Delphi study show that the future of the double materiality approach in the Spanish and European context will depend on its ability to evolve from a regulatory compliance mechanism to a strategic value governance model. The transition from the logic of the "checklist" to a deliberative practice, geared towards a comprehensive understanding of impacts, is the key challenge for the coming years.

The research shows that double materiality, as it is currently applied, suffers from methodological asymmetries, institutional biases and training shortcomings that reduce its transformative potential. Instead of serving as a tool for organisational learning, the process is often confined to sustainability or communication departments, disconnected from business strategy and decision-making.

The experts agree that this gap can only be overcome through a triple convergence:

1. Methodological, to ensure data comparability and traceability;
2. Organisational, through integrated governance structures and visible institutional leadership;
3. Ethics, reconnecting impact measurement to the intrinsic values that justify economic action, according to Thomas Donaldson (1999): those principles that have value for their own sake –dignity, justice, sustainability– and not just for their instrumental utility.

From this perspective, double materiality analysis is not only a technical reporting exercise, but also a tool for moral governance, which makes it possible to redefine the relationship between economy, society and nature from a logic of co-responsibility.

6.2. Social accounting as a tool for mainstreaming and homogenisation

One of the most robust conclusions derived from the consultation process is the need to incorporate social and environmental accounting systems as structural mechanisms for validation, mainstreaming and homogenisation. Social accounting –understood as a methodology that quantifies and monetises the non-financial impacts of an organisation on its different stakeholders– offers an empirical basis that is capable of integrating the economic, social and environmental dimensions in a common and verifiable language (AECA, 2024).

Faced with the current siloing of indicators, social accounting makes it possible to build an analytical framework consistent with double materiality by linking each impact to its (positive or negative) contribution to the common good. Its value lies in providing a unified metric that translates sustainability in terms of net social value generation or destruction, allowing comparison across sectors and entity types.

Moreover, social accounting can operate as a bridge between organisational micro-decision-making and national-macro-accounting, facilitating integration with statistical and public information systems (INE, SABI, CNMV). In this way, double materiality would cease to be an isolated exercise and become part of an extended accounting ecosystem, where economic and social outcomes are represented within a common framework of institutional accountability.

In methodological terms, this integration would have three decisive advantages:

1. Mainstreaming, by connecting the different functional areas of the organisation (finance, human resources, operations, sustainability).
2. Homogenisation, by providing objective and reproducible criteria for impact measurement.
3. Traceability, by generating a verifiable chain of evidence that reinforces the credibility of the sustainability report.

In short, social accounting is consolidated as the backbone of a mature double materiality, one that ceases to be a descriptive exercise and becomes an integral accounting of value.

6.3. Broadening the dialogue: Stakeholders, Shapeholders and Non-Stakeholders

Another emerging consensus in the study is reformulating the concept of participation in materiality analysis. Sustainability cannot be understood only in terms of the declared interests of traditional stakeholders, but must incorporate three circles of dialogue:

1. Direct stakeholders, those with a contractual or functional relationship (customers, employees, suppliers).
2. Shareholders, the owners of the capital, whose economic vision must be aligned with sustainability as a long-term value preservation strategy.
3. Shapeholders, actors -institutions, media, regulators, social movements, etc. - that have no specific legitimate interest in the organisation, but act on behalf of a third party that does.
4. Non-stakeholders, stakeholders who do not have a formal relationship with the entity but who are affected by its decisions or by the systemic effects of its activity (local communities, future generations, environment, global citizenship).

The recognition of non-stakeholders constitutes one of the most relevant innovations of double materiality, as it broadens the ethical scope of corporate responsibility. The experts stress that exogenous impact cannot be measured without integrating the voices that, while not participating in the economic system, suffer or benefit from its externalities.

The practical consequence of this approach is the need for more inclusive and empirically grounded deliberative mechanisms: open consultations, public panels, regional analyses and digital tools for collective participation. This is the only means to avoid the representativeness bias detected in the study, where organisations tend to select like-minded points of contact, reproducing complacent visions.

In this way, double materiality would shift from a process of *reputational validation* to one of public co-evaluation, where value is constructed via dialogue and in an inter-related manner. This broadening of dialogue also involves acknowledging that economic profit (shareholder value) cannot be separated from social and ecological legitimacy (stakeholder and non-stakeholder value), thus forming a triangular model of sustainability.

6.4. Towards a framework of intrinsic impact values

A key element that emerges from the theoretical and empirical discussion is the need to reconnect sustainability indicators to intrinsic values, in the sense developed by Thomas Donaldson (1999) in his theory of core business values. While mainstream economics tends to evaluate outcomes solely in terms of their utility or efficiency –instrumental values– the intrinsic value approach argues that there are goods and principles that have value in themselves, regardless of their contribution to profit. Applied to double materiality, this approach implies that indicators should not only reflect quantitative performance, but also the moral quality of the impact. Human dignity, distributive justice, institutional integrity or biodiversity protection are not means, but ends in themselves. Measuring sustainability is therefore not only about recording results, but also about assessing the ethical consistency of economic decisions with these values.

This approach has three practical consequences:

1. The indicators must be three-dimensional, incorporating a moral and relational reading alongside economic readings.
2. Materiality frameworks should not only assess the magnitude of the impact, but also its ethical and social sense.
3. The process of prioritisation must incorporate regulatory deliberation: not everything measurable is relevant, nor is everything relevant quantifiable.

Ultimately, sustainability is redefined as a process of realising intrinsic value –life, equality, community– within the boundaries of the economic system. Double materiality will only be transformative if it succeeds in translating this ethical dimension into verifiable decisions, integrating the principles of the common good into accounting and governance mechanisms.

6.5. Practical projection and future agenda

The analysis as a whole makes it possible to outline an agenda for methodological and institutional transformation. Firstly, it is necessary to systematise the criteria for exogenous impact and endogenous impact, establishing replicable and verifiable protocols that reduce subjectivity and detected biases. Materiality should no longer depend on "expert judgement" or "reputational perception" but on structural evidence. Secondly, there is a need to include supplementary structural indicators –social accounting, public value, circular economy– in order to capture the interdependencies between the three dimensions of sustainability. These instruments should not be seen as additional burdens, but as cognitive infrastructures that facilitate consistency and cross-sectoral comparability. Thirdly, it is necessary to rethink the role of stakeholders from a deliberative and not merely consultative logic. Stakeholders need to shift from passive recipients of information to co-evaluators of the value generated. The legitimacy of materiality depends on the recognition of this active plurality.

Finally, the results suggest the desirability of linking materiality analysis with national social and environmental accounting systems, so that corporate reports can enter into a dialogue with public indicators of sustainable development (INE, SABI, CNMV, Eurostat). This convergence would contribute to a more consistent view of the total value generated by organisations, thus reinforcing the principle of extended corporate responsibility in society.

6.6. Towards a discursive materiality of value

In summary, the study's findings converge on a central idea: double materiality is not an end in itself, but a means to rebuild the link between economics and ethics. Its maturity will not be achieved through the accretion of indicators, but by reintegrating economic value into a shared social and moral architecture. Social accounting thus emerges as the operational language of this convergence, enabling impacts to be measured, understood and reported from a holistic perspective.

Extended dialogue with stakeholders, shapeholders and non-stakeholders redefines the legitimacy of the process, while linking indicators to intrinsic values provides the regulatory horizon that endows it with meaning.

In short, double materiality will only fulfil its transformational potential if it becomes a tool of distributive justice, co-responsibility and relational transparency, capable of reflecting not only what organisations do, but also what they mean and generate in the moral fabric of society.

7 Proposed regulatory guidelines for ICAC regarding the implementation of the double materiality framework

Based on the Delphi study carried out and the conclusions drawn, a number of areas for improvement have been identified where regulatory action by the Accounting and Auditing Institute (ICAC) could be decisive for the consolidation of double materiality as a tool for strategic management and not just for compliance. The challenge lies not so much in creating new obligations, but in establishing a consistent framework to ensure the comparability, traceability and legitimacy of the analysis and reporting processes. Within this context, the ICAC is in a unique position to act as a focal point of methodological homogenisation and guarantor of non-financial data quality within the Spanish corporate reporting system.

Firstly, it is a priority for the ICAC to promote, in coordination with EFRAG and the relevant authorities, the drafting of a National Methodological Guidelines on Double Materiality Analysis, which will serve as a common reference framework for Spanish organisations. The experience derived from the Delphi study reveals that one of the main current problems lies in the scattered methodologies and absence of homogeneous criteria for the identification, prioritisation and assessment of impacts. A set of national guidelines would facilitate cross-sectoral comparability and allow small and medium-sized enterprises to adopt simplified and validated methodologies, avoiding both "paralysis by analysis" and purely formal compliance.

Secondly, the structural integration of social and environmental accounting within the Spanish accounting regulatory framework is proposed, as an instrument of mainstreaming and homogenisation. Social accounting, understood along the lines of Retolaza, San-José and Ruiz-Roqueñi (2016), enables the translation of social and environmental impacts into monetary and verifiable metrics, thus building a bridge between sustainability indicators and traditional financial statements. This approach not only favours impact traceability, but also introduces a distributive and ethical dimension of value, in line with the notion of intrinsic values proposed by Donaldson (1995). Consequently, social accounting can play a key role in consolidating double materiality by making non-financial data a fully integrated element of the national accounting system.

A third line of action relates to the formalisation of stakeholder dialogue. Empirical evidence demonstrates that one of the most recurrent biases in materiality processes is the strategic or expedient selection of the stakeholders consulted. Therefore, the ICAC could establish a requirement for par-

ticipatory traceability, whereby companies would provide evidence of the selection criteria for their stakeholders, shapeholders and non-stakeholders. This three-fold distinction is especially relevant: while stakeholders represent groups that have a direct relationship with the organisation, shapeholders refer to actors capable of shaping the institutional or regulatory environment in which the company operates, and non-stakeholders are groups indirectly affected by its activity. Ensuring their adequate representation would move towards a more legitimate and pluralistic material assessment, thereby reducing confirmation bias and strengthening the deliberative dimension of the process.

Fourthly, it is deemed essential to move towards a model of gradual assurance of non-financial data, comparable to financial data in terms of rigour and verifiability. Double materiality requires data governance based on consistency, integrity and auditability. The ICAC, in collaboration with the CNMV and the Institute of Sworn Accountants of Spain, could establish a tiered assurance scheme, based on risk and the relevance of material indicators. This process should include technical guidelines on internal controls applicable to ESG reporting, sectoral validation mechanisms, and governance responsibilities for review and approval. Placing the quality of non-financial data on par with financial data is a decisive step towards building institutional confidence in sustainability reporting.

Fifth, it is recommended that the ICAC promote the professionalisation of sustainability analysis and social accounting by creating an official certification - e.g. "Expert in Double Materiality and Social Value Analysis" - in coordination with universities, professional associations and business associations. This accreditation would serve to recognise the necessary technical skills for ESG risk quantification, data governance, scenario modelling and strategic alignment. The current lack of specialised profiles is one of the main constraints identified by experts, underlining the need for an integrated training ecosystem that overcomes fragmented approaches and favours interdisciplinarity.

Finally, it is considered necessary to incorporate an explicit reference to the ethical dimension of value in future ICAC guidelines, following Donaldson's concept of the intrinsic values of enterprises. This means recognising that the ultimate purpose of sustainability reporting is not just to measure risks or externalities, but to shed light on the effective contribution of organisations to the common good and social justice. From this perspective, accounting regulation should move towards an extended reporting model, one that is capable of integrating economic, social and moral values within a coherent framework of corporate responsibility. This ethical approach would make it possible to give substantive content to the principle of "sustainable value creation" as stated by the CSRD, preventing its trivialisation into purely reputational narratives.

Taken together, these proposals point to a regulatory paradigm shift: from formal compliance to strategic value management. The ICAC could play an invaluable role in this transition by establishing a national information system that combines technical rigour, sectoral consistency and participatory legitimacy. Such a system, based on social accounting as a common language and double materiality as a structuring principle, would place Spain at the forefront of sustainable accountability in Europe. Ultimately, materiality regulation is not just about mandating reporting, but redefining how organisations understand, measure and report their contribution to the collective good.

8 Limitations of the study

Despite the qualitative richness and analytical depth achieved via the Delphi study, this study has several limitations that must be acknowledged in order to properly contextualise its results and steer future research. Firstly, the exploratory and contextual nature of the analysis conditions its generalisable scope. The conclusions derived reflect the expert perception of a group of highly specialised professionals in sustainability, reporting and auditing, but does not claim to be the universal consensus of the sector. The selection of panellists, although deliberately diverse, may have introduced an expert bias, insofar as more technical or institutional views prevail over more operational or community-based ones.

Secondly, the very design of the Delphi study has inherent limitations. The search for consensus can lead to an artificial convergence of views, reducing the heterogeneity of perspectives and mitigating relevant dissenting views. Moreover, the analysis was conducted in three rounds, which, while ensuring cross-validation of the emerging categories, does not completely eliminate the risk of subjective interpretation in the summaries of the qualitative responses. The absence of a subsequent phase of empirical testing (e.g. through case studies or triangulation with quantitative data) limits the ability to verify the extent to which expert perceptions translate into actual organisational practices.

Another limitation stems from the evolving time and policy framework in which the research takes place. The study has been conducted within a context of profound regulatory change, marked by the gradual implementation of the CSRD and the initial publication of the ESRS. Consequently, the findings reflect a situation of regulatory transition that is likely to evolve in the coming years. This implies that certain conclusions, especially those concerning methodological standardisation or non-financial data assurance, may need to be updated as the European framework is consolidated.

The analysis has also prioritised an institutional and corporate view of the double materiality process, focusing on large companies and financial institutions. While this approach makes it possible to observe the organisational complexity of compliance and data governance, it relegates the specific characteristics of other relevant actors to the background. This includes SMEs, cooperatives or social economy entities, which face different challenges and opportunities when implementing the new sustainable accounting framework. The incorporation of these realities would allow for a more nuanced understanding of the process and enrich the applicability of the conclusions.

Finally, an epistemological limitation must be acknowledged: the analysis is situated at a crossroads between financial accounting, corporate sustainability and economic ethics. This interdisciplinary approach, although conceptually fertile, requires greater theoretical systematisation that allows the concepts of social value, materiality and corporate responsibility to be integrated in a coherent manner. Specifically, the application of Donaldson's (1995) intrinsic values framework to social value reporting and measurement processes remains an emerging area that requires further conceptual and empirical development.

9 Future lines of research

Based on the limitations identified and the findings obtained, several lines of research are now proposed that can contribute to the theoretical and practical boosting of double materiality in the European context, and especially in Spain.

Firstly, it is a priority to develop empirical models for sectoral application to test the consistency, reliability and strategic usefulness of double materiality in different industries. Longitudinal case studies in key sectors (energy, finance, agri-food, construction) could provide evidence on the actual effectiveness of the methodologies and the impacts of incorporating materiality on decision-making, resource allocation and sustainable value creation.

Secondly, there is a need to make progress on mechanisms for integration between social accounting and corporate sustainability frameworks, exploring how social value measurement systems (such as the models of Retolaza et al., 2016) can be operationally incorporated into regulated reporting processes. This area of research may include the design of hybrid reporting models that combine quantitative and qualitative, monetary and non-monetary metrics, ensuring the traceability of social impact in extended financial statements.

A third line of research involves assessing structural and cognitive biases in the processes of determining materiality. The identification of biases such as confirmation bias, media visibility bias or quantification bias opens up fertile ground for experimental or comparative studies that analyse how such biases influence the creation of materiality matrices and the legitimacy of stakeholder dialogue. Further work on this dimension would enable the development of bias mitigation protocols and enhance methodological objectivity.

Fourthly, there is a need to promote research on the role of shapeholders –actors with the capacity to shape the institutional or regulatory environment– in double materiality processes. The recognition of this category broadens the traditional stakeholder approach and allows the analysis of multi-level sustainability governance, including regulators, professional bodies and industry associations. This line of study could contribute to a better understanding of the institutional ecosystem underpinning corporate sustainability.

Finally, it is recommended to move towards a research agenda geared towards value ethics and accounting decision-making, linking the regulatory principles of intrinsic value theory (Donaldson, 1995) with the practice of accountability. This approach would make it possible to overcome the instrumental view of sustainability and open up a line of thought that considers accounting not merely as a reporting system, but also as a mechanism for moral and social deliberation.

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11 Annexes

ANNEX 1. Questions used in the Delphi study

Round 1. Identification of barriers and opportunities

Objective: To openly explore experts' perceptions on the factors limiting or enhancing the strategic use of double materiality analysis and on the traceability of current processes.

Questions posed:

1. What do you consider to be the **main brakes** preventing organisations from using double materiality analysis as a strategic tool beyond regulatory compliance?
2. What **factors could act as accelerators** to make this study a true strategic tool?
3. In your opinion, what are the **biggest weaknesses** of the process and how could **traceability** in double materiality analysis be **improved**?

Results:

The responses were coded and ranked by frequency of mention, resulting in a first summary of problems and opportunities, used as a basis for the second round.

Round 2. Relevance and prioritisation assessment

Objective: Conduct a quantitative validation of the ideas emerging from the first round and determine the level of consensus among the experts.

Methodological instructions to participants:

"After analysing the responses in Round 1, the ideas have been sorted according to their frequency of occurrence. In Round 2, please score each idea on a scale of **1 to 5** (where **1 = Not important** and **5 = Very important**). Ideas with low scores (1 or 2) will be discarded, and the study will focus on ideas with high scores (4 or 5)".

Evaluation blocks:

1. Brakes hindering the strategic use of double materiality.
2. Accelerators that can boost their strategic integration.
3. Main weaknesses of the current process.
4. Proposals to improve the traceability of the analysis.

Results:

The data obtained enabled the calculation of means and standard deviations for each item, thus identifying the areas of greatest consensus and serving as a basis to formulate specific proposals in the third round.

Round 3. Formulation of proposals and final consensus

Objective: Identify concrete solutions and agreed recommendations to strengthen double materiality as a tool for strategic governance and organisational sustainability.

Questions posed:

1. Given the **inherent complexity** of conducting a double materiality analysis, how could the **analysis process be improved**?
2. Having identified the **shortage of specialised training** as a critical obstacle, what are the **essential contents and/or skills** that should be taught, and what is the target audience for this training?
3. **ESRS standards foresee the development of sector-specific standards**. Which **sectors** should be prioritised in their initial development and why?
4. **Effective integration of double materiality analysis** requires rigorous data traceability and cross-departmental mainstreaming. How could this **mainstreaming be approached** from a practical and organisational perspective?

Expected result:

This phase seeks to reach a **level of operational consensus** aimed at generating **applicable recommendations** that will contribute to improving methodological consistency, professional training and governance of double materiality in Spain.

ANNEX 2. From indicators to materiality: regulatory developments in the European sustainability framework (2022-2025)

	Year / Regulatory milestone	Description of regulatory progress	Impact on sustainability report design	Official reference
2022	First EFRAG drafts (Set 1)	EFRAG publishes the initial technical drafts of the <i>European Sustainability Reporting Standards (ESRS)</i> . They contain over 1,100 datapoints and an extensive list of predefined indicators.	An " indicator-centric " approach: companies must report on a comprehensive set of standardised metrics, with little flexibility according to size or sector.	EFRAG, <i>Draft ESRS Set 1 Exposure Drafts</i> (2022).
July 2023	Adoption of Delegated Regulation (EU) 2023/2772	The European Commission approves <i>ESRS Set 1</i> and redirects the system towards a materiality-based approach . It introduces changes to EFRAG's technical advice "to ensure proportionality and to facilitate the correct application of the standards".	It establishes materiality analysis as the starting point of the of the sustainability report: "Materiality assessment is the starting point for sustainability reporting under ESRS" (ESRS 1, §53).	Delegated Regulation (EU) 2023/2772, Recital 8; ESRS 1 §53.
December 2023	Publication in the OJEU and entry into force	The Delegated Regulation is published in the <i>Official Journal of the European Union</i> (L 320, 22.12.2023). Large companies will be required to apply the ESRS in their 2024 reports (to be published in 2025).	A two-tier architecture is consolidated: (1) <i>ESRS 2 - General disclosures</i> , mandatory for all entities, and (2) thematic standards based on the outcome of the materiality analysis..	OJEU L 320/1, 22.12.2023.
April 2024	Adoption of the Due Diligence Directive (CSDDD)	The EU approves the <i>Corporate Sustainability Due Diligence Directive (CSDDD)</i> which imposes obligations to identify and mitigate negative impacts throughout the value chain.	Materiality analysis takes on an operational function : it serves to identify risks to be managed by companies through due diligence. It strengthens the link between information (CSRDD) and action (CSDDD).	European Parliament and the Council, <i>Directive on Corporate Sustainability Due Diligence</i> (2024).
October 2024	"Omnibus Delegated Act"	The Commission adopts a delegated act on simplification which reduces around 57% of mandatory data points , introduces implementation phases, and makes double materiality more flexible for SMEs.	The role of materiality as a filter in determining relevant information is reinforced. Risk: greater discretion and less comparability.	European Commission, <i>Omnibus Delegated Act amending ESRS Set 1</i> (2024).
2024-2025	Monitoring and practical implementation (ESMA, EFRAG)	Supervisory bodies (ESMA, EFRAG, CNMV) issue guidelines on the materiality process. Emphasis is placed on the need for companies to explain in detail their criteria, sources and judgements.	Materiality is consolidated as a governance mechanism companies must justify <i>how</i> they apply ESRS 1 concepts to their business reality.	ESMA, <i>Findings on Materiality Assessment Processes under the ESRS Framework</i> (2024).

ANNEX 3. Research hypotheses: conceptual pillars of the materiality analysis

Pillars of the hypothesis	Description of the problem	Theoretical assumption or line of comparison	Methodological or practical implication
1. Methodological asymmetry (exogenous vs. endogenous impact)	Entities anticipate exogenous impacts and neglect endogenous ones, without clear identification or accountability criteria.	The lack of balance between the two dimensions prevents the comprehension of true organisation-environment interdependence.	Design differentiated and verifiable processes for each type of impact.
2. Institutional disproportionality	The resources and capacities to implement ESRS vary according to entity type (large enterprises vs. SMEs, cooperatives, foundations, public authorities).	Small enterprises and social entities show less methodological maturity and regulatory adaptability.	Develop specific guidelines and proportionate tools for implementation.
3. Defensive impact management bias	Exogenous impact is interpreted as a risk to be controlled, not as an opportunity for value creation. Endogenous impact is confused with routine management.	Materiality becomes a reactive rather than a transformative exercise.	Rethink impact as a vector for innovation and shared value.
4. Cross-cutting insufficiency of indicators	The current indicators are fragmented and do not link economic, social and environmental dimensions.	The lack of mainstreaming conceals the social and environmental value generated.	Incorporate social accounting and non-financial value measurement.
5. Need for analytical and participatory convergence	Technical (data) and deliberative (stakeholder) dimensions operate in a disconnected fashion.	Legitimate analysis requires the integration of empirical evidence and pluralistic deliberation.	Develop hybrid frameworks for measurement and traceable participation.
6. Financial tunnel vision in internal materiality	It is assumed that the interest of all organisations is limited to their financial performance.	This approach ignores the fact that many entities have social, public or cooperative purposes where the financial aspect is only instrumental.	Incorporate institutional and social value indicators in endogenous analysis.

ANNEX 4. Delphi Study Round 1: Brakes identified

	Brake (summary)	Demonstrated in responses	Block
1	Vision of regulatory compliance: Checklist approach and regulatory compliance	Appears literally in several quotations: "mandatory", "check", "reporting exercise", "process of analysis and not the outcome".	Cultural and organisational
2	Weak strategic integration/ESG: Cultural resistance and a purely financial vision / Lack of ESG integration	Reiterated in several responses: "financial inertia", "lack of integration of ESG issues", "not incorporated into strategy".	Cultural and organisational
3	Difficulty of cross-cutting work and lack of real commitment from all areas.	Various mentions: "cross-cutting exercise", "no one is involved", "endemic difficulty of working end to end".	Operational and resources
4	Lack of knowledge and understanding of the concept / lack of training	Highlighted in several sentences: "lack of knowledge", "don't understand the process", "lack training in the two variables".	Operational and resources
5	Data constraints, limited resources and high time requirements	Quoted in several answers: "in a hurry", "time-consuming", "time-consuming analysis".	Operational and resources
6	Perceived enforceability and lack of competitive incentive	Appears in two answers: "waived afterwards", "little pressure from the competitive environment".	Contextual
7	Lack of methodological homogeneity and thresholds	They mention: "There is no homogeneity in the methodological approach", "There is no homogeneity in the definition of thresholds".	Methodological
8	Loss of strategic focus on technical detail	Appears in one response: "subtopic level the strategic perspective is lost".	Methodological
9	Lack of maturity and understanding of benefits	Mentioned once: "lack of maturity and understanding of the benefits of the exercise".	Cultural and organisational
10	Tendency to declare 'everything is material'.	Quoted in one reply: "temptation in all areas to identify everything as relevant".	Cultural and organisational
11	Confusion with previous tools	Mentioned in one reply: "historical pre-existence of other similar tools".	Cultural and organisational
12	Absence of consolidated previous practices	Mentioned in one reply: "lack of consolidated previous practices".	Contextual

ANNEX 5. Delphi Study Round 1: Accelerators identified

	Accelerator	Brief explanation	Block
1	Encouragement of senior management	Explicit commitment of the executive committee and board of directors, integrating double materiality in strategic decision-making and strategic planning.	Leadership and governance
2	Education and training of key teams	Training managers, boards and financial areas to understand the concept and apply it in management.	Capacity, data and methodology
3	Linking with risk and opportunity management	Incorporate analysis into risk mapping, financial planning and identification of new business opportunities.	Strategic and risk integration
4	Shared responsibility between areas / mainstreaming PMO	Creation of a mainstreaming office or structure to ensure the involvement of all areas not only sustainability, and interdepartmental collaboration.	Leadership and governance
5	Increased pressure from non-shareholder, non-funding stakeholders	Growing demand from customers, civil society, NGOs or citizen groups for companies to strengthen their ESG performance.	External pressure and incentives
6	Requirements of investors and financiers	Pressure from funds, shareholders and banks to integrate ESG criteria into their investment and financing decisions.	External pressure and incentives
7	Clear communication and participation with stakeholders	Ongoing dialogue with stakeholders to identify material issues, define priorities and align expectations and data.	Capacity, data and methodology
8	Availability of sectoral tools and methodologies	Guidelines, standards and best practice cases that facilitate a comparative and scalable approach.	Capacity, data and methodology
9	Understand its practical outcome for management	Conceive of the analysis not just as a report, but also as a tool to guide business decisions.	Strategic and risk integration
10	Sustainability dashboard in committee	Inclusion of sustainability indicators together with financial indicators in the dashboard reviewed by the board of directors.	Leadership and governance
11	Top-down approach	High-level definition (e.g. following recommendations from European bodies) of key material issues.	Leadership and governance
12	Consistent and stable regulation	Clear, consistent and predictable regulatory frameworks that incentivise the strategic adoption of double materiality.	External pressure and incentives
13	ESG-sensitive organisation	Corporate culture that recognises the importance of environmental and social impacts and risks in its strategy.	Capacity, data and methodology
14	Structured and homogeneous methodology	Use of quantitative criteria and comparable methods to facilitate traceability and comparability.	Capacity, data and methodology
15	Clarification of organisation-specific priorities	Identify internally the most relevant impacts and risks for the business model.	Capacity, data and methodology

ANNEX 6. Delphi Study Round 1: Identified weaknesses

Freq.	Item	Short description	Block
1	Lack of standardised and homogeneous methodology	No common framework; great variability of approaches which hampers comparability and credibility.	Methodology and traceability
2	Insufficient documentation of the process	Lack of detail on criteria, phases and decisions; little evidence for external review.	Methodology and traceability
3	Lack of traceability between analysis and business decisions	The analysis is performed to comply with regulations but is not integrated into strategic decision making, KPIs,	Connection with company management
4	Limited or unrepresentative stakeholder participation	Little or biased stakeholder consultation, which reduces the legitimacy of the analysis.	Stakeholder participation
5	Limited availability of reliable data	Lack of robust data, especially in biodiversity and value chain, which prevents strong traceability.	Data and internal control
6	Complexity and subjectivity in identifying and assessing IROs	High interpretative burden and difficulty in consistent assessment.	Methodology and traceability
7	Weak financial assessment of impacts	Poor quantification of financial effects of ESG risks; lack of rigorous scenarios.	Methodology and traceability
8	Lack of alignment between material issues and reported information	Inconsistencies between what is identified as material and what is finally reported in the reports.	Methodology and traceability
9	Ambiguity of regulations	Ambiguity in definitions and thresholds of materiality hindering comparability.	Methodology and traceability
10	Lack of IRO mapping ↔ ESRS and link to due diligence	Absence of matrices linking impacts to reporting requirements and due diligence processes.	Methodology and traceability
11	Lack of internal control systems and data lineage.	Lack of versioning and control mechanisms similar to those for financial reporting.	Data and internal control
12	Excessive caution in the publication of IROs	Reputational fears minimise or soften negative impacts in reporting.	Connection with company management
13	Difficulty in cross-cutting work	Challenges in coordinating all areas and achieving a truly end-to-end process.	Stakeholder participation

ANNEX 7. Delphi Study Round 1: Improvements to the traceability process in double materiality analysis

No.	Item	Description of the improvement	Block
1	Standardise methodology	Create a homogeneous scheme (even included in the Annual Accounts) that makes the process of double materiality transparent and comparable.	Methodology and traceability
2	Document a logic chain	Show with matrices or diagrams the links between identified impacts, assessment criteria, sources used and final prioritisation.	Methodology and traceability
3	IRO matrix → ESRS disclosures	Clearly map impacts, risks and opportunities (IROs) to ESRS requirements and internal indicators.	Methodology and traceability
4	Record materiality by IRO	Document who decides, when and why; implement a versioning and change control system (data lineage).	Methodology and traceability
5	Clarify accountability	Explicitly define "who does what" and who takes responsibility at each stage of the analysis.	Methodology and traceability
6	Structured and homogeneous methodology for comparability	Develop a common framework to improve traceability and enable inter-company review and comparison.	Methodology and traceability
7	Involve internal or external auditors	Subject the process to independent review, even if not yet mandatory, to boost confidence in the results.	Verification and control
8	Implement internal control systems similar to those for financial reporting	Incorporate data control and monitoring mechanisms to ensure reliability and traceability.	Verification and control
9	Ensure meaningful and diversified stakeholder participation	Explain selection criteria, consultation methods and how stakeholder input is incorporated.	Stakeholder engagement and communication
10	Contrast with dynamics focused on processes with many queries.	Use small working sessions to for first-hand input from stakeholders and validate conclusions when there are a large number of points of contact.	Stakeholder engagement and communication
11	Digital traceability in the value chain	Compile ESG data from suppliers, packaging and raw materials using technological tools, even with SMEs that are not highly digitalised.	Data and digitisation
12	Organise existing internal information	Retrieve and structure data already recorded by the company to feed the analysis without duplicating efforts.	Data and digitisation
13	Link analysis with actual management	Ensure that findings are translated into strategic decisions, resource allocation and definition of KPIs.	Integration in management and competitive advantage
14	Recognition and measures to boost voluntary adoption	Encourage companies to see double materiality as a competitive advantage and not only as a regulatory obligation.	Integration in management and competitive advantage

ANNEX 8. Delphi Study Round 2: Summary of categories and evidence – Delphi Study Round 2

Main category	Subcategories or key issues	Interpretive summary	Textual evidence or examples
1. Governance and leadership	- CEO and management leadership. - Cross-cutting PMO and Committee review. - Lack of organisational alignment.	Effective integration of double materiality requires visible leadership and formal governance structures. The absence of CEO leadership and executive oversight perpetuates its technical nature.	"Lack of CEO leadership"; "quarterly review in Committee"; "double materiality in sustainability silo".
2. Organisational culture and capabilities	- ESG perceived as a "checklist". - Little technical and conceptual training. - Lack of understanding of CSRD and DM.	Cognitive and cultural problems persist: sustainability is associated with compliance and communication, not strategy or value management. Role-based training and management awareness emerge as critical drivers.	"no knowledge of CSRD"; "ESG seen as a 'checklist'"; "role-based training is a necessary condition".
3. Methodology and thresholds	- Lack of sectoral standardisation. - Ambiguity in the definition of thresholds. - Need for explicit rules on impact recognition.	The methodology is perceived as fragmented and with little comparability across sectors. Experts call for common criteria and shared taxonomies defining materiality levels and mitigation costs.	"European regulatory changes"; "need for standardised methodology"; "accounting as material all risks with a significant cost of compensation".
4. Data and metrics	- Heterogenous sources and proxies. - Lack of data quality, consistency and traceability. - Need for common data models.	ESG data have structural weaknesses: high dependence on proxies, low reliability and lack of interdepartmental coordination. The definition of a "minimum ESG data model" and a corporate catalogue of accepted proxies is proposed.	"Fragile data"; "use of proxies and waste of time"; "design a common minimum ESG data model".
5. Traceability and transparency	- Weak link between analysis and decision. - Excessive caution in publishing IROs. - Lack of complete chain of data→decision→budget→KPI.	Traceability remains the weakest link in the process. Procedures that explicitly link analysis to resource allocation and decision-making, as well as progressive publication policies, need to be established.	"Little connection between analysis→decisions"; "caution when publishing IROs"; "traceability procedure for material issues".
6. Regulatory ecosystem and sectoral coordination	- Regulatory excess and instability. - Low legal certainty. - Sectoral initiatives for standardisation.	The regulatory environment is perceived as unstable and inconsistent. Sectoral projects and inter-institutional collaboration appear as ways to achieve standardisation and credibility.	"Regulatory swings undermine credibility"; "participate in sectoral projects".
7. Drivers for improvement and accelerators	- Managerial leadership. - Structured training. - Cross-sectoral coordination and investor pressure.	Professional implementation, executive leadership and the integration of ESG metrics into dashboards are the main drivers of change identified.	"Investor pressure activates the organisation"; "ESG KPIs in scorecard"; "quarterly review by executive committee".
8. Traceability risks	- Net approach that conceals risks. - Lack of quantification of negative impacts. - Communicative prudence.	The use of the net approach and lack of transparency create biases that make material risks with significant costs invisible. It is proposed to explicitly recognise compensation costs as part of the impact.	"Net approach hides material risks"; "paralysing caution".
9. Structural stresses	- "Checklist" vs. strategic management. - "Proxies" vs. evidence. - "Confidentiality" vs. transparency. - "Sectoral standardisation" vs. "corporate specificity".	These conceptual tensions summarise the core dilemmas of the materiality process, which require a balance between standardisation and flexibility, as well as between reporting prudence and strategic utility.	"Formal compliance vs. strategic use"; "comparability vs. contextual materiality".

ANNEX 9. Qualitative analysis of problems in the application of double materiality

Category / Factor	Quotation or textual example (expert's summary)	Analytical interpretation
Cultural and organisational	"Double materiality is experienced as a checklist, just another regulatory procedure."	Reflects a passive internalisation of sustainability : the organisation complies formally, but without integrating the process into its strategic management.
	"In some areas they didn't even know what CSRD was."	Demonstrates a lack of regulatory literacy and understanding of the purpose of the Directive. Disinformation prevents true appropriation of the process.
	"It's not seen as an opportunity, but as an obligation."	Shows a culture of defensive compliance where sustainability is not linked to value or innovation.
	"Each area works on its own, unconnected."	Indicates organisational siloing and lack of mainstreaming coordination mechanisms.
Methodological	"There is no standardisation in the thresholds; what's a lot of CO ₂ for an industry isn't the same for a bank."	Points to a lack of standardised criteria for determining the relevance of impacts, leading to arbitrariness.
	"Reinventing the wheel: different tools in different departments."	Denotes confusion and methodological duplication with low internal integration.
	"The reports tend to declare everything as material."	Indicates an inflationary bias that diminishes prioritisation and detracts from the usefulness of the analysis.
Operational and resources	"The data are incomplete or are proxies that can't be verified."	Points to the structural weakness of ESG reporting systems and the need to strengthen their reliability.
	"There's no time or resources to do it well; everything's done in a hurry."	Highlights time and budget pressure as a factor that compromises the quality of the analysis.
	"Difficult to work end-to-end: no one takes full responsibility."	Describes a lack of ownership and interdepartmental collaboration.
Governance and leadership	"Unless supported by the top management, there's no commitment from the areas."	Confirms dependence on executive leadership as a necessary condition for effective implementation.
	"When reviewed by the committee, the process becomes more credible."	Suggests that the formal institutionalisation of oversight increases legitimacy and consistency.
Regulatory and contextual	"The fact that the regulation is in process detracts from its legitimacy: they prefer to wait until everything's clear."	Reflects regulatory uncertainty and its paralysing effect on organisational action.
	"There are no competitive incentives to do it well."	Denotes the absence of positive market pressures that reward sustainable performance..
	"Each country interprets it in its own way, and this creates mistrust."	Exposes a lack of European harmonisation and consistency in the application of standards.
Traceability and transparency	"The analysis is done, but nobody translates the results into objectives."	Indicates a gap in the reporting value chain , with no connection between diagnosis and decisions.
	"Negative impacts aren't reported out of caution."	Shows a tendency towards self-censorship linked to reputation management and fear of exposure.
	"The net approach disguises the reality: if something has to be compensated for, it is material."	Criticises the manipulated interpretation of risks under the pretext of accounting neutralisation.

ANNEX 10. Summary of qualitative results – Delphi Study Round 3

Thematic focus / Question	Main contributions and diagnosis	Proposals for improvement or action	Estimated level of consensus
1. Improving the Double Materiality analysis procedure	- The current process is perceived as overly complex and bureaucratic ("paralysis by analysis"). - Lack of methodological standardisation and sectoral comparability. - Little involvement of top management; DM remains confined to sustainability. - Lack of connection between analysis and corporate strategy.	- Simplify the scope to 25-40 truly material indicators (<i>less is more</i>). - Apply the <i>comply or explain</i> principle to justify non-materiality. - Standardise methodologies and thresholds by sector. - Involve financial management and create the post of a "climate and finance officer". - Set up a PMO or cross-cutting oversight committee.	Very high: widespread agreement on the need for simplification, standardisation and strategic leadership.
2. Contents and targets of the Double Materiality training course	- Structural problems in technical and strategic capacity building. - Training overly focused on compliance, not on risk management and value creation. - Lack of mainstreaming and leadership in training.	- Develop advanced training programmes on: - DM methodologies and risk quantification. - ESG risk assessment (TCFD, scenarios). - Non-financial data governance. - Stakeholder engagement and integrated reporting. - Multi-level training: - Senior management (strategic vision). - Financial and risk management (<i>climate and finance officers</i>). - Sustainability and data teams. - Promote specialised university and corporate programmes.	High: broad agreement on the need for professional implementation and mainstreaming of training, although with nuances regarding the level of specialisation.
3. Priority sectors for the development of ESRS sectoral standards	- Agreement that sectoral standards are key to comparability and relevance of reporting. - Priority to sectors with the greatest systemic environmental and financial impact. - Discussion on the temporary suspension of sectoral development (Omnibus) and use of GRI as an interim benchmark.	- Priority 1: sectors with high environmental materiality (energy, heavy industry, transport, agriculture). - Priority 2: sectors with indirect financial materiality (banking, insurance, investment funds, holding companies). - Priority 3: sectors with high social materiality (textiles, retail, food, utilities). - Apply mixed criteria (impact, size, type of ownership).	Medium-high: agreement on environmental and financial priorities; minor differences on current regulatory feasibility.
4. Traceability and organisational mainstreaming	- ESG information siloing between departments. - Lack of clear data capture and validation protocols. - Lack of visible leadership and ranking alignment. - Low quality and verifiability of non-financial data.	- Equate the rigour of ESG data with financial data ("accounting for sustainability"). - Create the figure of the ESG Chief Data Officer (CDO). - Implement integrated ESG reporting platforms. - Establish interdepartmental committees and sustainability PMOs. - Integrate the CSO as a staff body reporting to the CEO. - Apply analytical accounting techniques (ABC) to link impacts to activities.	Very high: general agreement on the need for data governance, technological integration and cross-cutting leadership.

ANNEX 11. Biases observed in the double materiality analysis (Delphi study summary)

	Bias identified	General description	Demonstrated in the Delphi study (summary of contributions)	Implications for practice	Proposals for mitigation
1	Self-scoping bias	The company unilaterally defines "relevant" issues without cross-checking them with stakeholders, conditioning the entire subsequent process.	Experts point out that entities "anticipate relevant issues" based on their strategic discourse, limiting participation to subsequent validation.	This generates a circular and self-confirming materiality; social and structural impacts are made invisible.	Include previous phases of open and empirical identification; cross-check initial list with external sources and multi-stakeholder consultations.
2	Representativeness or desirability bias	Like-minded or institutionally close points of contact are chosen, excluding critical or indirectly affected voices.	Several experts warn that consultations focus on collaborative actors (like-minded NGOs, business associations), without including trade unions, consumers or local communities.	This reduces participatory legitimacy and diversity of perspectives; it reinforces institutional complacency.	Establish transparent criteria for stakeholder selection; ensure plurality and rotation of participants.
3	Confirmation bias	The organisation interprets results to reinforce its existing strategy or policies.	In the Delphi rounds, a tendency to "validate what's already being done", using DM to confirm previous corporate narratives has been observed.	This prevents materiality from generating organisational learning and strategic transformation.	Introduce external reviews and critical discussion mechanisms; compare results with sectoral benchmarks.
4	Checklist bias	The process is reduced to a formality, prioritising matrices and visual scales over analytical reflection.	Often cited as a cultural brake: DM is executed as a "checklist" or "reporting exercise", without methodological depth.	Double materiality loses strategic value and is perceived as an administrative burden.	Simplify and standardise methodologies; promote supplementary qualitative analyses; link results to real decisions.
5	Financial or economic bias	Endogenous impacts are assessed only in terms of immediate economic risks, ignoring social or institutional ones.	The experts decry a "purely financial vision" and lack of real ESG integration, especially in internal DM.	It reproduces a reductionist concept of value, focused on short-term profitability.	Train "climate and finance officers" who integrate sustainability and finance; include social and reputational metrics in financial materiality.
6	Methodological ranking bias	Relevance weights and thresholds are assigned without standardised criteria or empirical justification.	"Lack of methodological standardisation" and the "arbitrary definition of thresholds" in the prioritisation of issues are mentioned.	Makes comparability across entities and sectors difficult; leads to opaque and poorly reproducible decisions.	Standardise sectoral criteria (EFRAG/ESRS); use rankings based on verifiable data or deliberations.
7	Strategic omission bias	Certain sensitive or uncomfortable issues are consciously excluded from the process to avoid reputational conflicts.	Some experts mention the tendency to avoid issues such as corruption, taxation or institutional governance.	This limits the substantive transparency and credibility of sustainability reporting.	Require public justification for exclusions ("explain"); incorporate social audits and independent third-party assurance

ANNEX 12. Main findings of the study on double materiality

Main findings		Explanatory summary
¹	From regulatory materiality to strategic materiality	Double materiality must extend beyond a formal compliance checklist to become a strategic management tool that guides decisions, risks and sustainable innovation.
²	Social accounting as an instrument for mainstreaming and standardisation	Social accounting enables the integration of economic, social and environmental dimensions within the same accounting framework, ensuring comparability, traceability and consistency between entities and sectors.
³	Rebalancing exogenous impact and endogenous impact	It is necessary to develop methodologies that treat the effects of the organisation on the environment (exogenous) and the impacts of the environment on the organisation (endogenous) with equal rigour, avoiding confusion or asymmetry.
⁴	Extended dialogue: stakeholders, shapeholders and non-stakeholders	The legitimacy of the analysis depends on incorporating the voices of those who participate (stakeholders), influence (shapeholders) and are affected without direct representation (non-stakeholders), ensuring plurality and relational justice.
⁵	Training and institutional leadership	The professional implementation of the process requires transversal leadership and the figure of the "climate and finance officer", capable of integrating sustainability, finance and strategy in decision-making.
⁶	Sectoral standards and collective learning	Sectoral standards should not be understood as a regulatory burden, but as instruments of precision and learning that facilitate comparability and methodological progress.
⁷	Governance and traceability of non-financial data	Making ESG data as rigorous as financial data through data governance structures, integrated platforms and clear accountabilities boosts credibility and future assurance.
⁸	Linking indicators to intrinsic values (Donaldson)	Indicators should not only reflect the magnitude of the impact, but also its moral value: dignity, justice and sustainability are ends in themselves, not instrumental means.
⁹	Extended value accounting and institutional convergence	The integration of materiality analysis with national social and environmental accounting systems (INE, CNMV, Eurostat) would make it possible to assess the real contribution of each entity to the common good.
¹⁰	Towards a relational materiality and ethics of value	Double materiality achieves maturity when it combines technical evidence and moral deliberation, transforming the economy into a space of co-responsibility, transparency and shared value creation.

ANNEX 13. Proposals to the ICAC to boost the regulation and application of double materiality analysis

Key points of improvement	Proposal to the ICAC	Technical and strategic justification
1 National methodological framework reference of reference	Develop, in collaboration with EFRAG and sectoral authorities, Spanish Methodological Guidelines for Double Materiality Analysis, establishing standardised criteria on the identification, prioritisation and assessment of exogenous and endogenous impacts.	Currently, companies apply their own distinct methodologies, which prevents comparability. A set of national guidelines would facilitate methodological consistency, especially for SMEs, cooperatives and public entities.
2 Integration with social and environmental accounting	Promote a standardised social accounting system, complementary to the financial one, that enables the translation of material impacts into monetary values and verifiable metrics, in line with <i>Social Accounting for Sustainability</i> (Retolaza et al., 2016).	Social accounting can serve as a mainstreaming and standardisation instrument, reinforcing the traceability of real impacts and avoiding checklist bias in reporting.
3 Recording and accreditation of participatory processes	Require companies to document and accredit mechanisms for dialogue with stakeholders, shapeholders and non-stakeholders, including representativeness, diversity and transparency criteria.	Desirability bias in the process of selecting stakeholders is one of the main biases identified. Establishing traceability of participation would improve the legitimacy of the results and their assurance.
4 Oversight and assurance of non-financial data	Promote, together with the National Securities Market Commission (CNMV) and the Spanish Institute of Sworn Auditors (ICJCE), a progressive assurance model for ESG data, comparable to the financial one, with risk-based audits and sectoral verifications.	The lack of data governance is one of the structural weaknesses. Bringing their rigour in line with financial reporting strengthens the reliability and comparability of reports.
5 Professional training and certification in accounting sustainability	Create an official professional certification for sustainability and social accounting analysts (e.g. <i>Expert in Double Materiality and Social Value Analysis</i>), in coordination with universities and professional associations.	Lack of training is a critical obstacle. Certification by the ICAC would promote the professionalisation of the sector and the quality of reports.
6 Intrinsic value-based approach (ethics of value)	Include in ICAC guidelines an explicit reference to the ethical dimension of value (Donaldson, 1995), recalling that the purpose of reporting is not only to measure risks, but to demonstrate the contribution to the common good and distributive justice.	This would allow sustainability accounting to be geared towards an economy of integral value (economic, social and moral), in line with the EU's approach to the " <i>just transition</i> ".

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