Journal of Business Models (ISSN: 2246-2465), Vol. 13, No. 2, pp. 71-96

JOURNAL OF BUSINESS MODELS

The Textual Representation of Double Materiality in ESG Reports: Developing a Content Analysis Codebook within a Business Model Perspective

Authors

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Abstract

Purpose: This study aims to operationalise the analysis of textual patterns in ESG reports from the perspective of double materiality, enabling the distinction between value and impact statements across environmental, social, and governance initiatives. This aligns with the transformative nature of ESG reporting, which promotes more sustainable business models by integrating environmental and social impacts into core value creation, facilitating the management of risks and opportunities linked to the interests of various stakeholders.

Design/Methodology/Approach: The paper develops guidelines for exploratory content analysis to examine ESG reports through a structured codebook approach, focusing on topic prevalence, tone, and integration levels. It combines signalling, stakeholder, legitimacy, institutional, and attribution theories as complementary elements.

Findings: The research establishes a methodological framework for analysing double materiality in ESG reports facilitating the recognition, systematisation, and analysis of textual choices in ESG reporting.

Practical implications: The developed codebook provides a structured approach to analyse and compose ESG reports, helping organisations balance standardisation requirements with reporting flexibility while ensuring transparent, decision-useful information for stakeholders. This benefits both academics and practitioners.

Originality/Value: This paper presents a novel methodological approach to analyse ESG reports through the lens of double materiality, bridging theoretical understanding with practical application. This supports the use of ESG reporting as a tool for transformation towards more sustainable business models.

Keywords ESG Reports, CSRD, Exploratory Content Analysis, Double Materiality Assessment

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Please cite this paper as: Lilo, R., Paemurru, E., Pärl, Ü. (2025). The Textual Representation of Double Materiality in ESG Reports: Developing a Content Analysis Codebook within a Business Model Perspective, *Journal of Business Models*, Vol. 13, No. 2, pp. 71-96 , DOI 10.54337/jobm.v13i2.10050.

1. Introduction

In an era of global transition from traditional business models (BM) towards sustainability in response to challenges posed by social responsibilities and climate change (Bebbington and Gray, 2001; Bansal, 2005; Di Vaio et al., 2020; Roblek et al., 2020; Baumüller and Sopp, 2022; Fiandrino et al., 2022; WEF 2023), we are witnessing a paradigm shift in reporting, where a more broad-based approach is sought, focusing on shared value for society and the environment (Monciardini et al, 2020). As the importance of transparently disclosing environmental and social impacts while sustaining economic prosperity has increased (Adams, 2017; Bansal, 2005; Cooper and Michelon, 2022; Fiandrino et al., 2022; EC, 2022), we observe layers of complexity in its representation in reports (Cooper and Michelon, 2022, De Cristofaro and Culluscio, 2023).

In the EU, the Corporate Sustainability Reporting Directive (CSRD) (EC, 2022) employs the concept of double materiality (DM), which recognises two distinct types of materiality: (1) financial materiality, influencing the company's value and (2) impact materiality, representing the effects of the company's activities in its social and environmental context (Baumüller and Sopp, 2022; Cooper and Michelon, 2022; EFRAG, 2023). This shows how different BMs balance the creation of financial value with social and environmental impact management.

The notion of DM is deeply rooted in the need for sustainable value creation, which, in turn, is directly linked to the BM applied (Di Vaio et al., 2020; Lüdeke-Freund et al., 2020; Delgado-Ceballos et al., 2022, Fiandrino et al., 2022, Pesci et al., 2023). The DM analysis within the ESG report reflects which impacts are most concerning to the organisation both outwards and inwards and in combination (Nielsen, 2023; Adams and Abhayawansa, 2022). This mirrors the systemic logic of BM, which must simultaneously manage externalities and internalities, since value creation is always entangled with social and environmental consequences (Lecocq et al., 2023, Adams and Abhayawansa, 2022).

To address the complexities of a new reporting paradigm, this paper proposes guidelines for using exploratory content analysis to showcase and analyse the text of ESG reports. The paper consists of two main sections – (1) literature review, including both theoretical and legislative basis for the definitions of *materiality*, *value* and *impact*, and (2) proposed methodological framework (exploratory content analysis) for analysing the explicit presentation of impact- and value-related information in ESG reports, including the prevalence of different topics, tone and the level of integration. Embedding DM within BM research thus offers a coherent framework for theorising how BMs mediate between financial performance and broader ecological and social impacts.

Due to the complex network of relations in ESG activities, the topic cannot be fully explained and analysed by a single theoretical perspective (Gray et al., 1995). Consequently, the authors build their approach on several theoretical viewpoints. Drawing from signalling, stakeholder, legitimacy, institutional, and attribution theories, the paper maps a complex system of interrelated approaches and their potential presentations in text.

The paper concludes with a discussion of the theoretical and policy implications resulting from the analysis, arguing that while introducing new standards, a degree of flexibility is also essential. This resonates with the current regulatory challenge - the Omnibus or simplification package (Council of EU, 2025) adopted in February 2025 -, which seeks to reconcile rigorous requirements with operational relief. The complexities of finding a balance are also highlighted by the Copenhagen declaration that followed the Omnibus package in September 2025, warning that the simplification should not mean forgoing the integrity and ambition of the CSRD (Rasche et al, 2025).

Furthermore, the study introduces a practical tool for mapping current disclosure practices while striving toward providing more decision-useful and transparent information for diverse stakeholders.

In terms of analytical techniques, adding a methodological tool for analysing DM adoption and disclosure enriches the knowledge of DM practices (De Cristofaro and Culluscio, 2023), as well as BM practices offering a lens to understand how sustainability factors are integrated into value creation and risk assessment (Bini et al, 2021; Michalak et al, 2017; van de Ven et al, 2023). It involves navigating between value and impact to enhance the trustworthiness of information presented in reports (Adams and Abhayawansa, 2022), offering an empirical entry point to trace how organisations operationalise these dual materialities. Acknowledging the complexity of the field (Cooper and Michelon, 2022), this study also responds to the calls for assessing the presentation of information in terms of simplification and standardisation of ESG factors, material to businesses (Delgado-Ceballos et al., 2022), especially in light of the Omnibus's impact on the scope of required disclosures.

This paper goes beyond previous analyses (Young-Ferris and Roberts, 2021; Cooper and Michelon, 2022; Giner and Luque-Vílchez, 2022; Fiandrino et al., 2022) by composing guidelines to attain measurable and comparable evidence from ESG reports. The paper aims to provide a conceptual framework to operationalise the study of patterns observed in the text of ESG reports, based on the concept of DM, rooted in BM.

The proposed method offers multifaceted benefits. It provides informative material for academics and practitioners, enhancing comprehension of current reporting practices, especially distinguishing between the representation of the two facets of DM. Additionally, it introduces a novel analytical lens for deciphering organisational strategies in this transformative era, aiding decision-making processes by identifying crucial focal points.

Having established the need for further research and understanding of DM in ESG reporting, the paper now moves on to a comprehensive theoretical exploration, drawing insights from signalling, stakeholder, legitimacy, institutional, and attribution theories.

2. Literature review

2.1 Theoretical context

To address the analysis of ESG report text, the paper builds on five pillars. As illustrated in Figure 1, these five theories collectively inform our understanding of ESG reporting. While signalling (Ross, 1977) and legitimacy theory (Suchman, 1995) explain *why* organisations are motivated to spread information, stakeholder (Freeman, 1984) and attribution theory (Heider, 1958) help understand the tailoring of messages. In addition, institutional theory (DiMaggio and Powell, 1983) deals with the adoption process of external norms.

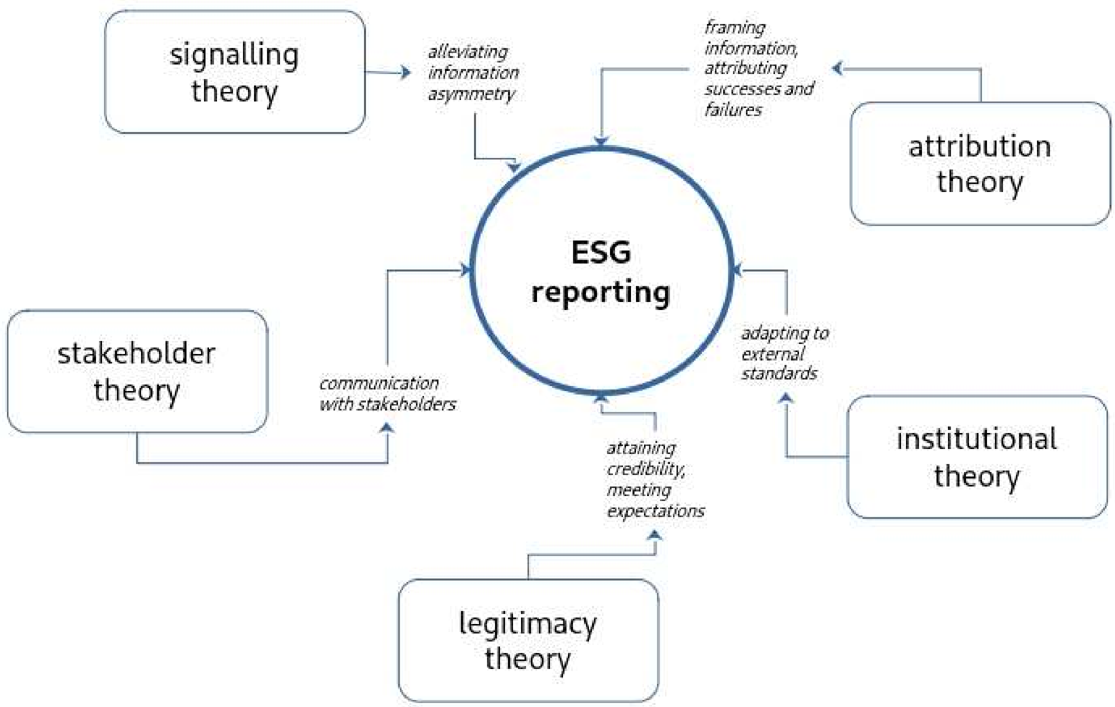

Figure 1. Main theories and how they explain different facets of ESG reporting (Source: Authors' own work)

On the one hand, reporting serves to reduce information asymmetry (Akerlof, 1970), ensuring the (relative) efficiency of markets (Fama, 1970). It communicates a company's performance (Ross, 1977), reduces agency costs (Jensen and Meckling, 1976), and prevents litigation costs (Skinner, 1994). ESG reporting researchers often approach sustainability disclosure through value relevance, which mitigates information asymmetry (e.g. Chauhan and Kumar, 2019). This line of research has shown that companies that disclose more ESG information have lower costs of capital (Dhaliwal et al., 2011; Eliwa et al., 2021) and lower analyst forecast errors (Dhaliwal et al., 2014).

On the other hand, reporting can also be viewed as a means for stakeholder inclusion - by catering to stakeholder expectations (Freeman, 1984). Here, BM serves as the systemic framework that integrates and articulates the logic of value creation, measures the non-financial outcomes, and communicates the organisation's impacts and strategies to manage complexity (Nielsen, 2023; Zhou et al., 2023; Lüdeke-Freund et al., 2024). Reporting serves not only as *communication*, but it is a *management tool* (Pärl et al., 2022), moving the BM from a profit-centric definition to one that explicitly embraces proactive multi-stakeholder management and value creation for a broader set of actors, including the environment (Massa et al., 2017; Stubbs and Cocklin, 2008; Lüdeke-Freund et al., 2024). In this view, organisations benefit from addressing stakeholder concerns in advance, e.g., regarding social and environmental issues that go beyond profit maximisation (Alvarado-Herrera et al., 2017). The stakeholder approach deals with the plurality of stakeholders by emphasising key actors. This is controversial in the context of sustainability where inclusion is underlined, as accountability is not limited to those "key" groups (Cho et al., 2015, Puroila and Mäkelä, 2019).

Similarly, legitimacy theory (Suchman, 1995) views companies as members of the community that try to meet societal expectations to keep their legitimacy. Legitimacy theory predicates the influence of social and political pressure or threats to legitimacy and explains companies' reactions to pressures to disclose (Zharfpeykan, 2021). Here, ESG reporting is part of an organisation's overall strategy to maintain its legitimacy. Maintaining societal trust supports not only reputational goals but also long-term business viability, which is integral to sustainable BMs. Here, while it may be intuitive for managers to try to maximise good news, a proportion of negative messages may prove necessary to obtain credibility (Jahn and Brühl, 2019).

Both stakeholder and legitimacy theories offer a framework for explaining increased and higher-quality disclosure, especially in sustainability-related reporting (Fiandrino et al., 2022).

Alternatively, institutional theory explains how organisations align their processes, policies and practices with external norms and standards to secure legitimacy (DiMaggio and Powell, 1983). The change in reporting from a voluntary to a mandatory regime can, therefore, be driven by the institutionalisation of sustainability practices (Campbell, 2007; Farooq and de Villiers, 2019), which increasingly demand that sustainability considerations be embedded in core BM to meet evolving external norms and stakeholder expectations. As societal expectations evolve, sustainability becomes more ingrained in institutional norms.

From a more pragmatic perspective, however, attribution theory (Heider, 1958) suggests that managers can influence opinions by the positive framing of messages (Hur et al., 2014; Leonidou and Skarmeas, 2017; Lin-Hi and Müller, 2013). In the context of reporting, organisations might attribute the success or impact of their initiatives to internal efforts (e.g., strategic decisions, effective management) or external factors (e.g., market conditions, regulatory environment) (Hewett et al., 2017; Roo, 2011) and thereby direct judgments towards the desired direction.

Figure 2 illustrates the connections between theoretical approaches and observable practices, highlighting the integrated nature of these theories in building the content analysis codebook.

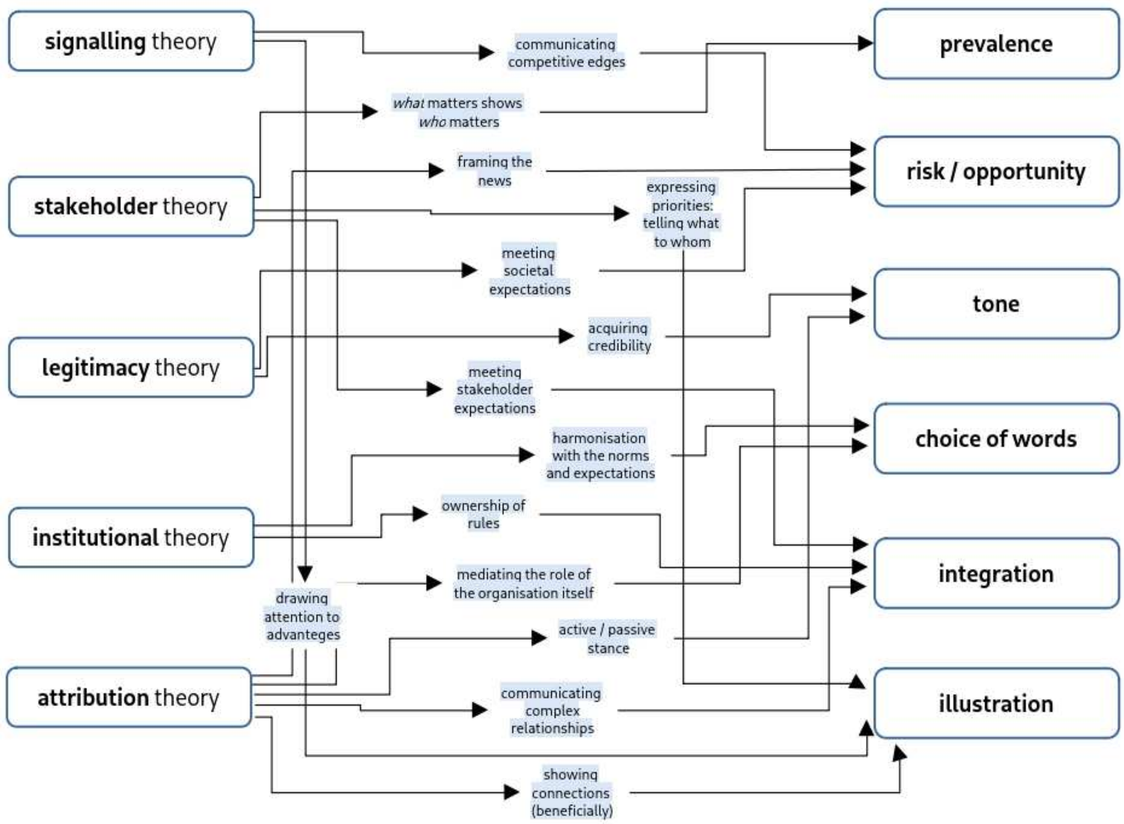

Figure 2. The connection between theoretical foundations and categories in the content analysis codebook (Source: Authors' own work)

These theories can be viewed as complementary rather than conflicting (Fernando and Lawrence, 2014). The proposed content analysis codebook will, therefore, be organised around signalling, stakeholder, legitimacy, institutional and attribution theories as visualised in Figure 2. This approach aims to comprehensively understand and interpret various aspects of the textual characteristics of ESG reports.

The theoretical foundations provide categories in the codebook to look for in ESG report texts. In the subsequent section, the authors will explore the definitions of key concepts related to ESG reporting in the CSRD and outline the definitions and characteristics of the DM, value, and impact concepts in the ESG reporting practices in the EU.

2.2 Key Concepts

For the study of ESG report texts to be systemic, replicable, and comparable, the authors need to define key concepts that will help determine how to categorise the statements found in these reports. As the definition of materiality evolves, it is important to highlight the differences between reporting on environmental, social, and governance (ESG) matters on a financial (value) or impact materiality level.

With the CSRD, part of the European Green Deal (EC, 2023a), the European Commission aims to improve the *completeness*, *comparability,* and *reliability* of ESG reports within the EU (Baumüller and Grbenic, 2021). It is operationalised with a set of European Sustainability Reporting Standards (ESRS), which aim to *improve* and *clarify* the requirements of ESG reporting.

In the following sections, the authors will explain the definitions of 'double materiality', 'value', and 'impact' to develop an assessment tool for the texts of ESG reports under the CSRD.

2.2.1 Double materiality (DM)

With the increasing importance of environmental and societal matters as well as changes on the regulatory level (Roblek et al., 2020; de Villiers et al., 2022), *materiality* has become a prominent concept in ESG reporting guidelines (Unerman and Zappettini, 2014). In the CSRD, materiality is viewed as two-fold. The two aspects of DM are defined in the literature as financial and impact materiality (Baumüller and Sopp, 2022; Cooper and Michelon, 2022; Edussuriya, 2022; De Cristofaro and Gulluscio, 2023) and described as follows:

1) financial materiality – 'outside in' perspective of materiality – impacts arising from the external business and natural environment that affect an organisation's short-, medium- and long-term business value generation. The information is presented in both qualitative and quantitative form.

2) impact materiality – 'inside out' perspective of materiality – impacts the external business, social and natural environment originating from business activities of the organisation, whether directly via the company's operations or indirectly in its value chain.

The CSRD aims to change current reporting systems, but also introduces several challenges, including the lack of a clear understanding of DM, selective disclosure on major sustainability-related topics, and varying reliability of data (EC, 2022, points (13) and (29)). The subsequent Omnibus initiative calls for simplification in ESG reporting requirements to support the competitiveness of EU businesses. However, the authors of the Copenhagen Declaration view this push for simplification as potentially counterproductive, emphasising that "Sustainability is not a regulatory burden but a strategic advantage that enhances Europe's competitiveness, resilience, and capacity for innovation" (Rasche et al, 2025, p. 1).

Despite the importance of materiality in reporting literature, a significant difficulty remains the lack of a standardised procedure for its assessment in ESG reporting (Baumüller and Sopp, 2022; Cooper and Michelon, 2022; Jørgensen et al., 2022; Luque-Vílchez et al., 2023), leaving the concept ambiguous and confusing (De Cristofaro and Gulluscio, 2023) due to divergent definitions across standard setters (Cooper and Michelon, 2022; Picard et al., 2023). Ultimately, the DM principle dictates what information must be reported, and the BM disclosure explains how the undertaking handles those material topics (EC, 2022, point 29; EC, 2023b, 1.2). The analysis of BM is therefore a natural starting point to identify a company's most likely material topics because what is material to an organisation depends also on the issue, the context, the time frame, and the stakeholders (Picard et al., 2023; Nielsen, 2023).

The current paper drafts a set of guidelines for analysing the patterns observed in the text of ESG reports from the perspective of DM within the context of the CSRD, thus forming a framework for assessing the presence and presentation of sustainability matters.

2.2.2 Financial materiality

The use of ‘financial materiality’ stems from the traditional value creation approach, mainly concerned with maximising financial returns (Bower and Paine, 2017; Gray, 2006). This paper views ‘value’ as having a potential effect on key performance indicators and financial outcomes (Bhatti et al., 2014). According to the CSRD, value creation lies in uncovering the organisation's opportunities and assessing business opportunities and risks related to sustainability matters. Opportunities are the factors that can positively impact the organisation (e.g. areas of innovation, operational efficiencies, enhanced stakeholder relationships, and positive contributions to society and the environment) (Picard et al., 2023).

In this view, the organisation that properly applies the logic of the CSRD can better understand how sustainability factors affect value creation and thereby lead to more substantial (financial) returns (Picard et al., 2023) by identifying and managing risks and opportunities that could reasonably be expected to have a material influence on the organisation’s development, financial position, financial performance, cash flows, access to finance, or cost of capital over the short, medium, or long-term (Nielsen, 2023).

2.2.3 Impact materiality

Although the term "impact" is ambiguous in the literature (Findler et al., 2019), it generally refers to the effects of an organisation's intervention outside the organisation, both in society and in the natural environment (Maas and Liket, 2011). Impacts can be direct and indirect, intended and unintended, and positive and negative (Lebeau and Cochrane, 2015). The complexity of impact makes its measurement difficult (Nielsen, 2023; Yarime and Tanaka, 2012).

In this paper, ‘impact’ is viewed as an expression of a more holistic view of an organisation’s effects on its social, natural, and business environment. In the CSRD, impact materiality refers to the measurable changes, both positive and negative, that an organisation’s activities have on the environment, society, and governance aspects. The assessment considers the potential risks or opportunities resulting from the organisation’s activities, products, or services (EC, 2022).

To conclude, defining ‘value’ and ‘impact’ for key concepts enables us to distribute the content units in the analysis between value- and impact-related information, helping us better grasp the explicit manifestation of DM matters in the ESG reports. As the ESG reports are to enable investors (as well as other stakeholders) to understand how the organisation is managing its ESG impacts, risks, and opportunities to contribute to accountability and trust, academic research suggests that DM has advantages such as the *improvement of reporting quality* (Adams et al., 2022; Cooper and Michelon, 2022).

It also underscores the critical role of sustainable BMs in translating ESG impacts into tangible business practices that foster accountability and stakeholder trust.

Having explored the theoretical background of financial (value) and impact materiality from the perspective of DM in the context of the CSRD, the authors now proceed to create a tool for analysing those two aspects in ESG reports based on textual patterns.

2.3 Linguistic concepts for text analysis

Quantitative content analysis is rooted in the works of Berelson (1952). It is widely used in media studies and other scientific fields that acknowledge the role of communication in the phenomena of interest. As any text represents the author and social situation in which it is created (Stone et al., 1966), the patterns in texts can reveal priorities and attitudes towards change, which in turn affect the realities of the organisations that created them.

Literature makes a compelling case for using content analysis on ESG reports, as "content analyses are most successful when they focus on facts that are constituted in language" (Krippendorff 2004, p. 75). According to signalling theory (Jensen and Meckling, 1976), organisations establish lines of communication to alleviate information asymmetry and communicate their competitive edges. From the viewpoint of texts, this can be observed by noticing the choices made: what is being discussed? The codebook defines these textual characteristics as choices evident in *prevalence* and *illustration* categories. The same categories are closely connected with stakeholder theory (Freeman, 2010): when taking note of priorities, we also bear in mind that what matters also defines who matters – or who does not. However, that is not all – catering to stakeholder expectations sets the *tone* and attitude towards the *risks and opportunities* posed by the environment. *Integrating* factual and numeric data to back up the claims ensures long-term relations with the public.

Stemming from legitimacy theory (Suchman, 1995), texts can vary based on perceived expectations and demonstrate various methods for gaining credibility. What is considered common knowledge, and what is included or left out (e.g., using passive voice), sheds light on the organisation's belief system regarding its environment. This is evident in *tone*, choice of *vocabulary*, *prevalent* topics, and *integration* of types of information.

The composition of ESG report texts can therefore also reveal (1) attributions (e.g. *tone*, disclosure of *risks and opportunities*), (2) social relationships (e.g. *choice of words*, which is a characteristic that shows what is important from the point of view of the intended audience), (3) public behaviours (e.g. the *prevalence* of topics or *illustrations* that convey values, dispositions, and conceptions of the world), and (4) institutional realities (e.g. creating a mutual understanding of the world with the *integration* of selected topics or goals and steps that are taken, thus institutionalising „how things are done").

As ESG reporting becomes mandated, institutional theory (DiMaggio and Powell, 1983) offers insight into the effectiveness of the new regulations, as demonstrated by the choice of *words* and the *integration* of various types of information. This also highlights how institutional pressures prompt organisations to embed sustainability more deeply into their core BM. It aligns internal operations, governance, and value creation with evolving external norms and stakeholder expectations, explaining not only regulatory compliance but also the transformative adaptation of BM toward sustainability.

Attribution theory (Heider, 1958) provides a basis for analysing the framing of information and communicating the complex relations and connections that affect the organisation. It may explain the adoption of a passive or active stance (in *tone* and attitude towards *risks and opportunities*) and the mediating role of the organisation.

Therefore, since choosing the codes in content analysis is a matter of narrowing down, we choose the six types of textual properties (*prevalence, risk/opportunity, tone, choice of words, integration,* and *illustration*) to be included in the codebook, as they concur with the theoretical foundations discussed earlier (see Figure 2).

Having provided an overview of the methodological framework, the rationale behind choosing it, and the process of developing the codebook, the authors now turn their attention to the detailed coding guidelines presented in the next section.

3. Results: the Codebook

The codebook (shown in Table 1) proposed in this paper divides information-rich statements in the ESG reports into six subgroups to understand the similarities and differences in disclosing environmental, social, and governance information on financial materiality and impact materiality levels. The authors hypothesise that there are distinct differences between the patterns in providing material ESG information from the financial and impact perspectives, with the differences being the most pronounced in the environmental segment. This dual focus reflects how ESG reporting articulates the evolving sustainable BMs that balance financial value creation with social and environmental impact management.

The authors divide the value- and impact-related information in the codebook into environmental, social, and governance-related sections, respectively. For each report, a table of analysis is composed.

The authors define value-related statements in the codebook as having the potential effect on key performance indicators and financial outcomes, and impact-related statements, on the other hand, as expressing a more holistic view of an organisation's effects on its social, natural, and business environment and how it itself is affected, often in alignment with broader goals and principles of sustainable development.

Number of ESG metrics	*(number)*					
Field of business	*(category)*					
Focus	*(value-driven, impact-driven, integrated)*					
Motivation	*(balance voluntary vs mandatory)*					
General notes						
	Environmental		Social		Governance	
	Value	Impact	**Value**	Impact	**Value**	Impact
Prevalence	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)
Risk/Opportuni ty	Main statements + assessment (*risk/opportunity*)	Main statements + assessment (*risk/opportunity*)	Main statements + assessment (*risk/opportunity*)	Main statements + assessment (*risk/opportunity*)	Main statements + assessment (*risk/opportunity*)	Main statements + assessment (*risk/opportunity*)
Tone	Main statements + assessment (*positive/neutral/ negative*)	Main statements + assessment (*positive/neutral/ negative*)	Main statements + assessment (*positive/neutral/ negative*)	Main statements + assessment (*positive/neutral/ negative*)	Main statements + assessment (*positive/neutral/ negative*)	Main statements + assessment (*positive/neutral/ negative*)
Choice of words	Examples + assessment (*management vs marketing*)	Examples + assessment (*management vs marketing*)	Examples + assessment (*management vs marketing*)	Examples + assessment (*management vs marketing*)	Examples + assessment (*management vs marketing*)	Examples + assessment (*management vs marketing*)
Integration	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)	Main statements + assessment (*high/medium/ low*)
Illustration	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)	Main illustrated statements + assessment (*informative/ persuasive/both/ neither*)

Table 1. Codebook for the content analysis of ESG reports (Source: Authors' own work)

When deciding whether to include a specific statement in the ESG section, the authors base their assessment on the division made in ESRS that combines standards in these areas into 5, 4, and 1 groups, respectively, as shown below in Table 2 (EC, 2023b):

Environment (E)	Social (S)	Governance (G)
ESRS E1 Climate change	ESRS S1 Own workforce	ESRS G1 Business conduct
ESRS E2 Pollution	ESRS S2 Workers in the value chain	
ESRS E3 Water and marine resources	ESRS S3 Affected communities	
ESRS E4 Biodiversity and ecosystems	ESRS S4 Consumer and end-user	
ESRS E5 Resource use and circular economy		

Table 2. The scope of European Sustainability Reporting Standards (Source: EC, 2023b)

Then, the authors assign these units' *prevalence* by assessing how central these issues are ((1) whether they are among the first in the report or chapter that are discussed, (2) how long the sections are, and (3) how detailed the analysis is).

The authors also record whether the statement refers to risk or opportunity.

Then, the *tone* (positive/neutral/negative) of these sections is noted, often referring to the attitude towards change, either subconsciously or as an attempt to mould readers' perceptions. The *choice of words* allows us to classify the approaches that have been taken—whether they are motivated by marketing, directed towards external constituents, or driven by internal factors, providing input to management decisions.

The authors also assess the level of *integration* (high/medium/low/none) using numeric and qualitative information in combination.

The authors will also count the number and describe the nature of metrics used to illustrate how the *field of industry* affects the information included in the reports. This may illustrate an *optimal* number of metrics in the respective field and give a glimpse into the balance between *motivations* (whether the target is to comply with reporting requirements, manage impressions, or provide transparent information).

The codebook provides a comprehensive tool for empirical analysis offering a multifaceted view of the patterns in reporting organisations' ESG activities and compliance with the CSRD, and serving as a starting point for further studies.

4. Discussion

The framework for content analysis outlined in this paper allows the authors to move beyond fragmented presentations of specific data (e.g., ratings, metrics) and create a tool that is beneficial to both the organisations that report on ESG matters and legislators who seek an optimal level of regulation, finding balance beyond the minimum requirement of mandatory obligation, rooted in common benefit and internal motivation (Paemurru et al., 2025).

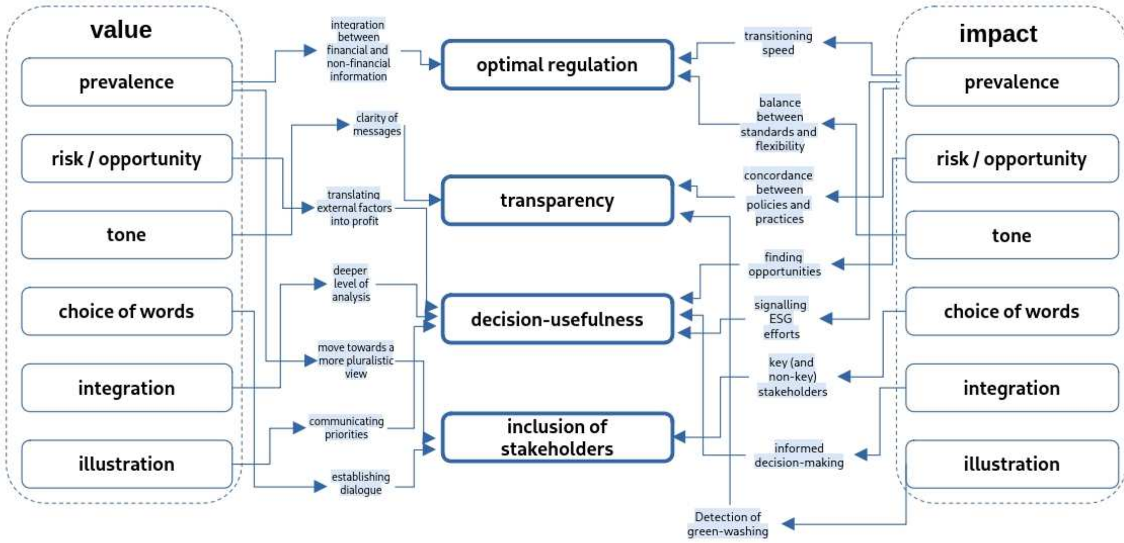

Figure 3. The mechanism through which the information gathered via content analysis contributes to the discussion of DM in ESG. (Source: Authors' own work)

The codebook proposed here is intended to reveal patterns that can be defined by fewer characteristics in the further stages of the authors' study. It is helpful for revealing organisations' priorities and highlighting areas of concern that may be intentionally avoided. Information obtained through such content analysis has implications for several branches of ESG reporting-related literature, as shown in Figure 3, and is closely intertwined with the evolution of more sustainable BMs.

In the following subsections, the authors will address the ways the empirical data gathered can contribute to the understanding of (1) optimal regulation - the balance between standardisation and flexibility, (2) transparency - concordance between presentation, policies, and practices, (3) decision-usefulness - the relevance of information included in the reports, and (4) inclusion of stakeholders - all groups that are significantly influenced by and/or have an impact on the organisation.

Implications for different lines of research are further discussed in respective subsections.

4.1 Optimal regulation

In the next section, the paper will navigate through challenges posed by the search for a balance between standardisation and harmonisation, on the one hand, and flexibility, on the other. The mandatory nature of reporting in CSRD raises concerns about the risk of crowding out sincere contributions to sustainable changes, fostering a *"tick-the-box mentality"* (Adams and Abhayawansa, 2022), and causing an administrative burden, as highlighted in the Omnibus proposal (Council of the EU, 2025). The ongoing debate further emphasises the need for "the right balance between regulatory rigour and business adaptability" (Paemurru et al., 2025, p. 34).

While these risks highlight significant challenges in achieving effective ESG reporting, they also underscore the necessity for a more integrated approach. The CSRD advocates for an *integrated view* of all the information in the management report to enhance user understanding of the organisation's development, performance, position, and impact (EC, 2022, point 51), viewing ESG-related activities as integral to the core business.

Increased integration would help organisations maintain flexibility and reduce complexity in reports, avoiding a mere "tick-the-box" exercise (Stubbs and Higgins, 2018; La Torre et al., 2019; Tiron-Tudor et al., 2019; Safari and Areeb, 2020). Pesci et al. (2023) anticipate a faster harmonisation and convergence, similar to financial accounting practices, necessitating *standardisation*. Given that ESG report elements vary due to different influencing factors across businesses, incorporating a degree of *flexibility* can enhance standardisation efforts (Espinosa and Walker, 2017). This would encourage organisations to embed sustainability deeply within their BM rather than treating ESG disclosure as a compliance exercise.

More precise suggestions and empirical evidence on optimal regulation are still scarce and fragmented. The practice can be distorted by varying measures for assessing the ESG reports as a representation of ESG performance, driving the companies to provide lengthier reports. These challenges not only complicate compliance but also risk undermining the credibility of ESG reporting as a whole. Even CSRD itself acknowledges the lack of generally accepted metrics and methods for measuring, valuing, and managing sustainability-related risks as an obstacle to ensuring sustainable BMs (2023, point 14). The codebook helps reveal areas where regulation might over-constrain reporting, limiting contextual finesse, or allow superficial disclosures. Addressing these gaps is crucial for enhancing regulatory frameworks and ensuring that ESG disclosures effectively support informed decision-making among stakeholders.

4.2 Transparency

Transparency is a central concept in ESG reporting literature; however, the nature of various reported issues complicates both the provision and analysis of this information, leading to discussions that will be further elaborated in the next section.

While transparency is desirable for enhancing market efficiency, organisations may resort to obfuscation techniques—such as deliberately providing misleading information or overcrowding reports with irrelevant details—to manipulate the information disclosed.

For instance, the symbolic management approach sees organisations engaging in visible actions to shape stakeholders' perceptions (Ashforth and Gibbs, 1990). Research suggests organisations utilise hypocrisy strategies, camouflaging their practices to manage stakeholder interests and uphold legitimacy (Cho et al., 2015; Michelon et al., 2015). Cho et al. (2012) also showed that companies can manipulate how information is provided in CSR reports to obtain and reinforce a positive image and mask negative aspects. This may also involve greenwashing, where organisations with poor ESG performance exaggerate their ESG disclosure (Calabrese et al., 2017).

By reporting a higher number of environmental indicators, companies can pursue a greenwashing strategy aimed at obfuscating their scarce commitment to sustainability and managing stakeholders' perceptions for their own benefit (Calabrese et al., 2017). Edgley (2014), drawing from Hicks (1964), argues that the clarity of a report can be increased by decreasing the amount of irrelevant information. Therefore, the quantity of information does not necessarily equal quality, and content analysis may help determine the usability of the presented information.

From a transparency perspective, the proposed content analysis codebook distinguishes between value and impact disclosures. This approach can reveal discrepancies between stated intentions and actual practices, highlighting patterns where ESG report information is either intentionally or unintentionally obscured. Identifying these gaps is crucial for fostering genuine transparency and accountability (Lilo et al., 2025). Understanding these transparency challenges from a BM lens reveals how superficial ESG disclosures may mask deeper misalignments or shortcomings in the sustainable value propositions of established BM. The codebook helps distinguish genuine integrative efforts from symbolic management practices.

4.3 Decision-usefulness

The term 'double materiality' is central in the CSRD and closely connected to decision-usefulness. It means that the information included in reports should be relevant and assist stakeholders in making informed decisions about the organisation and its activities, in other words, it should be *material*. However, the concept of DM faces challenges, with critiques questioning its usefulness due to the intertwined nature of impact- and value-related information. The inherent subjectivity of measuring materiality further complicates this distinction.

Materiality, viewed as a solution to inefficiency and a means to enhance financial statement quality by eliminating clutter, serves multiple purposes (Edgley et al., 2015). Nevertheless, studies reveal a lack of compliance or systematic approaches in organisations regarding materiality (Barkemeyer et al., 2015; Beske et al., 2020). The reasons for this vary, ranging from confusing regulations to a lack of internal motivation. Ultimately, however, the presentation of both value- and impact-driven aspects of sustainability information in ESG reports is critical. It influences the organisation's potential to create positive or negative value and impact (EC, 2022; Cooper and Michelon, 2022). This influence traces back to the underlying BM, which dictates how sustainability topics are prioritised, managed, and integrated into core value creation and risk management processes.

Organisations face the imperative of determining both what information to disclose and how to disclose it. Therefore, content analysis prompts a compelling exploration into how organisations present sustainability information in their reports and the matters they prioritise. When the organisation's starting point for ESG reporting comes from external requirements and policies, it may revert to focusing solely on external matters or "ticking the box" (Adams and Abhayawansa, 2022).

Applying the proposed codebook for analysing ESG reports reveals how effectively organisations identify and utilise environmental opportunities while recognising associated risks. Focusing on deeper analysis—rather than longer reports—can enhance decision-usefulness for management and stakeholders.

4.4 Inclusion of stakeholders

Studies on ESG reporting pay increasing attention to an organisation's diverse range of stakeholders. A shift in perspective is advocated, emphasising the necessity for a new approach that considers not just investors but all stakeholders and society at large (Adams et al., 2022). It prompts a critical examination of boundaries – decisions on what to incorporate and exclude. Content analysis will provide information on what is explicitly included – and what is not.

Numerous studies have explored the quality of stakeholder engagement in ESG reporting (Manetti, 2011; Diouf and Boiral, 2017; Moratis and Brandt, 2017). While these studies indicate that companies often engage with stakeholders, they frequently fail to disclose how these stakeholders contributed to defining report content and how their concerns were addressed.

Additionally, stakeholders are often grouped despite having distinct and potentially conflicting interests and varying degrees of influence over decision-making processes. Therefore, there is bias due to the selection of relevant stakeholders and the choice of information that is disclosed. The lack of full integration is (partly) explained by the lack of stakeholder engagement and a non-rigorous approach to materiality (Luque-Vílchez et al., 2023). While discussions continue about broadening corporate accountability to include stakeholders, Dillard and Vinnari (2019) highlight the difficulties in establishing an accountability system centred on dialogue and engagement with diverse stakeholder groups and responsibility networks. Genuine stakeholder inclusion forms a foundational element of sustainability-oriented BMs, requiring transparent communication on diverse interests and active engagement strategies, which the codebook aims to capture through detailed textual analysis.

From the stakeholder inclusiveness perspective, the proposed method of content analysis can facilitate understanding of both the 'key' stakeholders and the range of stakeholders that the organisation considers and engages. This approach can also pinpoint initiatives that foster dialogical relationships between the organisation and its stakeholders.

5. Limitations

As ESG reporting faces significant challenges—such as evolving regulatory requirements and growing expectations for transparency through non-numeric information—it is crucial to provide insights into current practices. This begins with a comprehensive content analysis outlined above, which aims to enhance understanding and improve stakeholder engagement strategies.

However, the implementation of the codebook has its limitations. As a semi-qualitative method, it relies heavily on the coders' perceptions and is, therefore, inherently subjective and prone to confirmation bias. However, this is mitigated to a degree by establishing clear coding procedures and engaging multiple coders. The authors are also aware of the problematic nature of distinguishing between value- and impact-related statements.

Coding is rather time-consuming and labour-intensive, making it unsuited for huge text corpora. AI can help systematise the findings and ensure adherence to coding rules, but it cannot replace humans altogether. Therefore, the proposed codebook only serves an exploratory function.

Despite relying on several theories, relevant factors that shape these texts may still be omitted, potentially resulting in distortions or limited findings. The methodology has some flexibility embedded to lessen its impact.

The authors also realise that several areas of interest, although directly related to ESG reporting, cannot be addressed through the exploratory content analysis proposed above. This method only allows the authors to examine the explicit content of ESG reports, but not, for example, the intent of the report preparers, internal considerations in the companies, or the reception of these texts. These can be addressed separately later.

Regarding future research avenues, there are many ways to either 1) utilise parts of the codebook to address specific areas of interest (e.g. inclusion of stakeholders) or 2) build on the findings and instrument them to be more easily applied (e.g. using NLP tools). The findings could also benefit from further examination of how these reports are prepared and received using qualitative methods.

6. Conclusion

The field of ESG reporting is complex and continually evolving. In the EU, adopting the CSRD (EC, 2022) represents a significant shift in sustainability-related reporting practices. Subsequent developments, including the Omnibus proposal (2025), further highlight the tensions integral to facilitating adaptability of organisations' BMs through DM. This transition provides a unique opportunity to explore how ESG reports convey material information related to the organisation's internal and external relationships.

The paper introduces a content analysis codebook for analysing the text of ESG reports under the CSRD. It is based on five theoretical pillars: signalling, stakeholder, legitimacy, institutional, and attribution theories, and the definition of DM within the framework of the CSRD.

The paper outlines a complex system of interrelated approaches and their explicit presentations in text, as well as the mechanisms through which the patterns found in the text the ESG reports under the CSRD could shed light on various areas of academic discussion, including the optimal level of regulation for ESG reports, assessing the transparency and decision-usefulness of the information presented in the ESG reports, and the power dynamics concerning stakeholder inclusion. These discussions are closely linked to sustainable BMs, as ESG disclosures reveal how organisations align their underlying BM logic with ESG imperatives. Through this lens, reporting patterns provide empirical insight into how organisations structurally embed sustainability considerations in value creation, risk management, and stakeholder engagement processes, central to BM.

The codebook enables the authors to distinguish between statements regarding the value and impact sides of DM, as well as those concerning ESG initiatives. It provides the researchers with data to recognise, group, and analyse patterns in ESG reports under the CSRD, with potential implications for both the academic and practitioner worlds. By situating the codebook within BM studies, the paper bridges ESG reporting practices with the dynamic transformation of organisations' sustainable value creation mechanisms. This codebook serves as a foundation for further exploration into the complexities of delivering transparent and decision-useful information that encompasses diverse stakeholders. Additionally, it aims to facilitate finding a balance between standardisation and flexibility in reporting practices.

The paper contributes to the growing body of literature in BM studies by expanding the notion of value beyond financial returns to include ecological and social dimensions, resonating with frameworks of sustainable value creation. This can illuminate the mechanisms by which organisations realign their business models under conditions of sustainability transition, thereby contributing to debates on corporate accountability, innovation, and resilience.

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