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Double Materiality Assessment and Stakeholder Engagement in Finnish Companies

Analysing Finnish Companies' Double Materiality Assessment Processes

Metropolia University of Applied Sciences

Bachelor of Business Administration

Programme International Business and Logistics

Bachelor's Thesis

April 2025

Abstract

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Title: Double Materiality Assessment and Stakeholder Engagement in Finnish Companies
Number of Pages: 55 pages + 1 appendices
Date: April 2025

Degree: Economics and Business Administration
Degree Programme: International Business and Logistics
Specialisation option: Finance
Supervisor: Kevin McIntire, Senior Lecturer

The purpose of the thesis was to analyse Finnish companies' double materiality assessment processes and the stakeholder engagement that supports those assessments. As companies prepare to report on their sustainability activities under the mandatory reporting framework CSRD, it is important to understand if their double materiality assessments have similar methodologies. Furthermore, it is important to understand if these assessment processes align with the recent EU guidelines, and how the stakeholders are engaged in the process.

The thesis discusses the history of ESG, the evolution and policymaking of ESG reporting in the EU, and the different voluntary reporting frameworks used until now. The European Sustainability Reporting Standards (ESRS) and the implementation guidelines for materiality assessment (EFRAG IG 1) are presented and discussed. Three methodologies were implemented in this study. To start, a literature review was made to contextualize the study with research in the field, understand its historical background and discuss relevant theories and concepts used throughout the thesis. The second methodology used was a qualitative analysis of 13 sustainability reports of publicly traded Finnish companies from several industries. It aimed at understanding current practices in materiality assessment and stakeholder engagement. In addition, a semi-structured interview was conducted with an ESG manager from a publicly traded Finnish company and analysed using thematic analysis.

The study's findings show similarities in materiality assessment processes for the sample companies. However, many still fail to disclose their methodologies with enough detail and clarity. The materiality assessment processes discussed show alignment with CSRD guidelines, indicating possible good preparation for CSRD. Companies show commitment to stakeholder engagement, and disclose using similar methods for implementing it, although at different stages of the materiality assessment process.

Keywords: ESG, ESG reporting, Double Materiality Assessment, Stakeholder Engagement

The originality of this thesis has been checked using Turnitin Originality Check service.

Contents

Glossary

1	Introduction	1
2	Methodology	3
2.1	Literature Review	4
2.2	Qualitative Analysis	4
2.3	Semi-structured Interview	6
2.4	Limitations	7
3	ESG History – a brief review	8
3.1	What is ESG?	8
3.2	ESG Reporting	10
3.3	Materiality Assessment	13
4	ESG Reporting in Europe	16
4.1.1	Polycymaking Timeline	16
4.1.2	ESRS	18
4.1.3	EFRAG Document on Materiality Assessment	19
5	Relevant Literature	22
6	Findings	24
6.1	Qualitative Analysis Findings	25
6.1.1	Initial Findings	25
6.1.2	Stakeholder Engagement	27
6.1.3	Materiality Assessment Process	30
6.2	Semi-structured Interview Findings	35
6.2.1	Initial Findings	36
6.2.2	Stakeholder Engagement	37
6.2.3	Materiality Assessment Process	38
6.2.4	Conclusions taken from the DMA experience	40
7	Discussion	43
7.1	First DMAs, their results and periodicity	43

7.2	Stakeholder Engagement	44
7.3	Materiality Assessment Outsourcing	46
7.4	Materiality Assessment Process	47
7.5	Insights from a DMA Experience	47
8	Conclusion	49
	References	51
	Appendices	56
	Interview Guide	56

Glossary

CSRD	Corporate Sustainability Reporting Directive
DMA	Double Materiality Assessment
EC	European Commission
EU	European Union
ESG	Environmental, Social and Governance
ESRS	European Sustainability Reporting Standards
GRI	Global Reporting Initiative
IROs	Impacts, Risks and Opportunities
SASB	Sustainability Accounting Standards Board

1 Introduction

Starting from 2025, EU law requires all large and listed companies to report on sustainability. Companies subject to the Corporate Sustainability Reporting Directive (CSRD) will have to report according to the European Sustainability Reporting Standards (ESRS) (European Commission, 2024). The last few years have been a period of transition, from having several reporting standards to choose from to a standardized reporting framework providing guidelines to reporting companies. The new rules aim to ensure investors and other stakeholders have access to the information needed to assess a company's ESG strategy and performance while helping reduce reporting costs over the medium and long term by harmonizing the information to be provided (European Commission, 2024).

According to GRI (Global Reporting Initiative), "Sustainability reporting is the practice of publicly disclosing an organisation's most significant economic, environmental and/or social impacts, and hence its contributions – positive or negative – toward the goal of sustainable development" (GRI, n.d.).

Investors and society are increasingly paying more attention to companies' sustainability efforts. Companies must continuously prioritize their sustainability efforts and reporting, determining which efforts should be conducted, which performance indicators should be chosen, and which information should be disclosed. Materiality assessments are central tools in such prioritization efforts, as they allow for an assessment of the relative importance of various sustainability issues (Jorgensen, Mjos & Pedersen, 2021).

Puroila & Mäkelä state that the concept of materiality, with its central role in defining and legitimising the reporting contents, is critical in the analysis of sustainability reporting. By providing "legitimate closure" to the reporting content, and to the variety of understandings of corporate sustainability, the concept of materiality also has a broader societal impact (Puroila & Mäkelä, 2018).

In 2019, the European Commission introduced the concept of double materiality, acknowledging two perspectives of materiality in sustainability reporting: financial materiality, and environmental and social materiality, referred to as impact materiality. The purpose is to inform both investors and stakeholders of the information they are interested in about ESG issues.

With the introduction of a new regulatory framework for ESG reporting, companies will have to increase their efforts in the understanding and implementation of the double materiality concept. This is especially true with regard to the Social dimension of ESG, which includes stakeholders within the company, alongside the supply chain, and the communities where the company is located. Stakeholders are, therefore, fundamental to identifying, mapping and understanding all material issues in a company's operations. So, the materiality assessment process holds the potential as a tool to embrace divergent stakeholder opinions with more open criteria (Puroila & Mäkelä, 2018).

It is important to understand if companies present similar methodologies for materiality assessment, when in preparation for CSRD reporting, whether companies are already following EFRAG's implementation guidelines for materiality assessment, and how different companies engage with their stakeholders in this process.

The research questions this thesis aims to answer are as follows:

Q1 Do Finnish companies present similar Materiality Assessment (MA) methods?

Q2 Are Finnish companies already following EFRAG's implementation guidelines for Materiality Assessment?

Q3 How do different companies engage with their stakeholders in their Materiality Assessment processes?

The thesis starts by discussing the methodology used to gather the data necessary to answer the proposed research questions. It is followed by a discussion of what ESG is, its history, and how reporting on ESG has evolved. A brief history of different contributors to the ESG reporting phenomenon is presented. The same chapter discusses the concept of materiality assessment and its importance for understanding a company's sustainability actions. A description of the European reporting framework is presented in this section.

The fourth chapter provides a timeline of ESG reporting in Europe, where the current reporting framework is discussed. EFRAG IG 1, an implementation guideline document for materiality assessment, is discussed at the end of the chapter.

Chapter 5 presents and discusses current relevant literature on materiality assessment. In it, studies that delve into the topic and their conclusions are considered, and the methodologies adopted by the experts in question to justify the approaches taken in this thesis are considered.

Chapter 6, Findings, presents the results obtained, which are later discussed in the following chapter. The thesis concludes with remarks about the whole project and a future study proposal.

2 Methodology

This chapter provides an overview of the methodologies adopted in this study.

A qualitative approach was chosen for this study to understand the impact of the new reporting framework implementation on ESG reporting. Furthermore, this approach clarifies well how companies approach the double materiality assessment, in opposition to the current reporting standards, and how companies apply the concept to assess their impacts, risks, and opportunities in sustainability. A qualitative research approach was chosen because the study tries to provide a deeper understanding of the double materiality assessment

processes, necessary to report in conformity with CSRD. More precisely, a mixed-methods approach was implemented, consisting of a literature review, a review of published materiality assessments, and a semi-structured interview.

2.1 Literature Review

A literature review is a process of obtaining and synthesising previous research, making reasoned judgements and organising ideas into a written review (Saunders, Lewis & Thornhill, 2023: 73). This section of the thesis aims to demonstrate awareness of the current state of knowledge on the subject, its limitations, and how this study fits in the context of sustainability reporting.

Academic articles on the topic were studied and reviewed to understand the historical background of the thesis study field, providing a research context overview, and discussing relevant theories and concepts that will be used throughout the thesis.

The contextualisation of ESG reporting discussed in the literature review chapter supports the qualitative analysis of public companies' sustainability reports and the semi-structured interview conducted, which are the other two methodological approaches of this thesis.

2.2 Qualitative Analysis

This thesis aims to aid in the understanding of how Finnish companies apply the concept of double materiality to assess their impacts, risks, and opportunities. By providing examples from companies that are leaders in their industry, a practical framework for materiality assessment can be developed. The importance of understanding the materiality assessment practices is emphasized as companies that are among the first to adopt the double materiality approach, are influencing the standardization of the assessment practices (Correa-Mejía, Correa-García & García-Benau, 2024).

As the current materiality assessment guidelines do not provide a mandatory framework for these processes, identifying common practices in industries has the value of displaying and setting the potential best procedures for materiality assessment. To sum up, the leading companies of each industry are hypothesised to lead the way on materiality assessment processes as well.

To address the proposed research questions, a total of 13 sustainability reports were qualitatively analysed, obtained directly from the chosen companies' websites. All of the selected companies are part of the OMX Helsinki 25, an index with the 25 most traded Finnish companies. Companies from different industries were selected to provide a wider range of examples of how these processes are implemented. Analysing reports from different industries also makes it possible to collect the best practices and use them as guidelines for implementation. Even within the same industry, different firms may have their specificities, such as location, markets in which they operate, firm size, or the extension of the supply chain. Hence, examples from other firms that have similarities, although operating in different industries, can be useful in opposition to looking only at the same industry.

In addition, analysing the 2023 sustainability annual reports can help understand companies' readiness for CSRD. The use of double materiality before it was mandatory is an example of this readiness. As Dragomir, Dumitru, Chersan, Gorgan & Paunescu (2024) concluded, companies that already comply with a large palette of standards and regulations that ensure the reliability of their materiality assessment processes appear to be well prepared to adopt the CSRD requirements.

Hence, the 2023 sustainability reports were analysed. The READ approach (Dalglish, Khalid & McMahon, 2020) was used for qualitative document analysis. Miettinen (2024) also used the systematic approach, developed initially for document analysis in health policy, in the article "Are materiality determination practices evolving in the wake of increasing legislation on sustainability reporting? Findings from EU pharmaceutical companies' reports".

The READ approach has four steps: 1) ready your materials; 2) extract data; 3) analyse data; and 4) distil findings (Dalglish, Khalid & McMahon, 2020).

The selected companies' reports were downloaded from their websites and carefully read through. Several readings of the materials were made, during which data relevant to the study was extracted into a separate document. Extracting the relevant data allowed to maintain the focus on the proposed research questions and the information required to answer them. The data was analysed by comparing the different companies to facilitate the organisation and discussion of the findings.

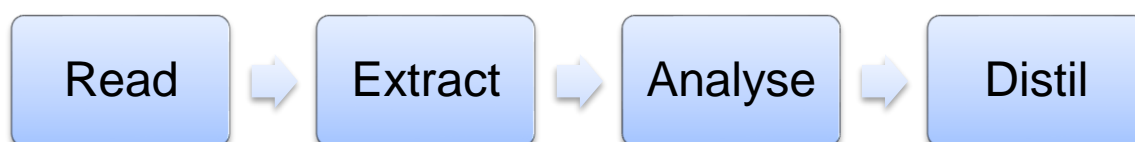


Figure 1 Visualization of the qualitative analysis – READ approach

The next section discusses the methodology used in the semi-structured interview.

2.3 Semi-structured Interview

The third part of this thesis methodology was a semi-structured interview with one professional working in ESG reporting. Thematic semi-structured interviews have a pre-set number of questions drawing on one or more themes to guide the interview questions (Saunders et al., 2023: 443). They are useful because they allow the interviewer to ask follow-up questions to understand better the topic discussed and build the conversation more flexibly. Apart from a list of themes to be covered, a semi-structured interview guide can also contain specific questions to initiate discussion, a possible list of prompts to promote further discussion, and comments to close it (Saunders et al., 2023: 445).

These reasons make semi-structured interviews ideal for these types of study, as knowledge is not yet fully developed, and ESG reporting is a fast-evolving arena where all the participants are still learning to navigate.

Thematic analysis was used to analyse the data collected, as it allows searching for themes or patterns across a data set. Thematic analysis is a systematic approach that provides an orderly and logical way to analyse qualitative data, leading to rich descriptions, explanations and theorising (Saunders et al., 2023: 664).

A guide for the interview was adapted from Laine (2024) after the analysis of the interviewed company's 2023 sustainability report. The interview guide used is available in the Appendix of this thesis.

This type of methodology is common among studies that aim to increase public knowledge of materiality assessment, some of which are discussed in Chapter 5.

2.4 Limitations

The first limitation of this study is its sample size. To understand the development of ESG reporting, and more specifically, how firms implement their double materiality assessment processes, it would be necessary to analyse a much larger number of reports. The same applies to the number of interviews made; to create a wide enough knowledge base on the practicalities of double materiality assessment, a larger number of interviews would be needed.

A more general limitation that can be attributed to this type of study relates to the lack of specific official guidelines about materiality assessment processes. ESRS does not mandate how the materiality assessment process shall be designed or conducted (EFRAG IG 1, 2024: paragraph 63). Therefore, it is difficult to determine whether the processes analysed are or are not fully correct. The positive aspect of this limitation is that it can also be considered an opportunity, as it allows individual companies to learn with one another and develop their best way to conduct these processes. As long as good practices are used as examples, the common knowledge on the subject will develop into positive outcomes.

The following chapter will introduce the ESG phenomenon with a brief history of how it started, how ESG reporting became part of corporate life, and a discussion about the thesis topic: materiality assessment.

3 ESG History – a brief review

3.1 What is ESG?

Before starting a discussion about a topic, it is useful to clearly define what ESG is, especially the one that is used generally, from news media to public discussion, academia, and business.

In simple terms, E stands for environmental, S for social and G for governance. From the start, it is noticeable that ESG is quite complex, as it integrates three distinct, however interconnected, concepts. According to the EC (EC, 2023) in its overview of sustainable finance, Environmental considerations might include climate change mitigation and adaptation, as well as the environment more broadly, for instance, biodiversity preservation, pollution prevention, and the circular economy. Social considerations could refer to issues of inequality, inclusiveness, labour relations, investment in people and their skills and communities, as well as human rights issues. The Governance of public and private institutions – including management structures, employee relations and executive remuneration – plays a fundamental role in ensuring the inclusion of social and environmental considerations in the decision-making process (EC, 2023).

A common way to look into it is through ESG investing, popularized in the early 2000s following the publication of the UN's Global Compact report "Who Cares Wins" (2005), which set to develop guidelines and recommendations on how to integrate better environment, social and corporate governance issues in asset management, securities brokerage services and associated research functions.

The European Commission uses the term Sustainable Finance, referring to the process of taking ESG considerations into account when making investment decisions in the financial sector, “leading to more long-term investments in sustainable economic activities and projects” (EU Commission, n.d.). They consider Environmental and Social considerations to be crucial in decision-making processes, encompassing climate change mitigation, biodiversity preservation, pollution prevention, and circular economy, to name a few examples. Governance, referring to public and private institutions, plays a vital role in ensuring these factors are considered.

From the corporations' point of view, ESG refers to “a range of policies, practices, and risks that a company must carefully balance, taking into account its specific circumstances, in seeking to achieve long-term, sustainable growth in value” (Lipton, Lipton, Rosen & Katz, 2022). The policies and practices mentioned should, therefore, be part of the management plans and balanced with the strategic development plans of the company.

Another commonly used concept is sustainability. In 1987, the United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission, 1997). It adds responsibility to current generations in managing both business activities and everyday living, developing prosperity for ourselves while taking into account the conditions we leave for future generations, regarding the economy, environment, and social well-being, allowing them good opportunities to develop their activities and create prosperity.

Sustainability is a broader principle that encompasses responsible and ethical business practices, while ESG is a framework that allows us to evaluate the performance of companies regarding environmental, social and governance issues. The inherent goal of sustainability issues is easily understood to be long-term-minded, while in most cases, currently, investing and business are still mainly short-term profit-minded, which can take us on the wrong path. An

example of this is the backlash to stakeholder capitalism – highly protective of the ESG cause, witnessed in the USA, describing it and ESG as “a threat to shareholder interests and a distraction for boards and management” (Lipton et al., 2022).

3.2 ESG Reporting

The purpose of ESG reporting is to inform stakeholders, shareholders and potential investors of a firm’s ESG activities (EC, 2023). However, despite being already legally required in many countries within the EU, “it is fair to say that such reporting is to a high degree an autonomous exercise, building on discretionary judgement on what to report” (Frostenson, 2023). Frostenson continues by adding that “legislation may mandate reporting on, for example, risks, structures and policies regarding environmental issues, diversity, gender equality and human rights”. On the other hand, “that does not mean, however, that legislation necessarily details what and how to report” (Frostenson, 2023).

This takes us to, possibly, the greater issue in ESG reporting: the ongoing lack of standardization in reporting practices. There has been an attempt to standardize such reporting through several initiatives, with the “aim to facilitate content standardization that would minimize misinterpretation of those reports and enhance their comparability” (Kacanski, Kabderian & Sund, 2023). A list of such initiatives includes, for example, ESRS (European Sustainability Reporting Standards), the Global Reporting Initiative (GRI), ISO 26000, the UN Global Compact, the Sustainable Accounting Standards Board (SASB), or even the surging of ESG Rating firms, such as MSCI ESG Ratings and Sustainalytics ESG Risk Ratings, that provide ESG scores to help the comparison between firms’ ESG performance. Due to this array of different reporting methods, “sustainability reports are characterised by low levels of transparency, completeness, and credibility” (Kaspersen & Johansen, 2023).

The inexistence of standardization together with reporting being an autonomous exercise, as mentioned above, may create a “problematic relationship between

sustainability performance and sustainability reporting” (Frostenson, 2023). Frostenson directs us to the possibility of a firm's sustainability reporting being unrelated to its actual performance on relevant issues. In the same article, an important premise is mentioned: the “very notion of sustainability reporting builds on the premise that the sustainability impact of the organization is somehow identified, measured, or described.” This premise is difficult to prove, as each firm has the freedom to identify, measure and describe its impact, leading to potential opacity on relevance and methods.

To help investors, the Sustainability Accounting Standards Board identified the most relevant 77 industry standards based on 26 broadly relevant sustainability issues organized under five sustainability dimensions. The purpose of SASB is to allow investors to recognize if a firm is reporting on relevant issues for its industry, to compare it with other firms in the same industry, and to make investor decision-making easier. However, the “meaning to be ESG compliant is still contested, as are the data used, and how it is implemented in an investment portfolio is up to the different actors in the financial industry to decide” (Neisig, 2023). Even after having these standards identified, for each company, it is “a challenge to determine which SASB standard is most relevant, and the mapping requires a lot of resources as non-financial reporting is not very automated compared to the tools available for financial reporting” (Neisig, 2023).

The Global Reporting Initiative is another initiative which aims to standardize ESG reporting. GRI enables organizations to understand and report on their impacts on the economy, environment and people in a comparable and credible way, thereby increasing transparency on the contribution to sustainable development (GRI, 2024). GRI’s approach is related to the relationship between the firm and different stakeholders, its purpose is to help firms understand their impact and how to communicate it.

The two frameworks discussed offer two very different perspectives of ESG reporting, which, it can be argued, adds to the complexity of the field. The two, despite their differences, are said to be complementary rather than substitutes.

Farber & Reichert (2023) quoted the heads of GRI and SASB: “Rather than being in competition, GRI and SASB are designed to fulfil different purposes for different audiences (...) The GRI standards are designed to provide information to a wide variety of stakeholders and consequently, include a very broad array of topics. SASBs are designed to provide information to investors and consequently, focus on the subset of sustainability issues that are financially material.”

The Corporate Sustainability Reporting Directive (CSRD), the EU’s set of reporting requirements and obligations, requires sustainability reporting to be based on the concept of double materiality, which tries to combine the standards set by GRI and SASB (EFRAG IG1, 2024, chapter 4). This means that a sustainability matter can be material from an impact perspective, from a financial one, or from both.

The European Sustainability Reporting Standards (ESRS), which will be discussed in more detail in a later chapter, provide a framework and methodology for reporting on material sustainability issues in the EU. They include definitions of two materiality dimensions. According to ESRS (ESRS, 2024), a sustainability matter is material from:

“an impact perspective when it pertains to the undertaking’s material actual or potential, positive or negative impacts on people or the environment over the short-, medium- and long-term. Impacts include those connected with the undertaking’s own operations and the upstream and downstream value chain, including through its products and services, as well as through its business relationships” (ESRS 1, 2024: paragraph 43);

“a financial perspective if it triggers or could reasonably be expected to trigger material financial effects on the undertaking. This is the case when a sustainability matter generates risks or opportunities that have a material influence or that could reasonably be expected to have a material influence on the undertaking’s development, financial position, financial performance, cash flows, access to finance or cost of capital over the short-, medium- or long-term ... The financial materiality assessment corresponds to the identification of information that is considered material for primary users of general-purpose financial

reports in making decisions relating to providing resources to the entity. In particular, information is considered material for primary users of general-purpose financial reports if omitting, misstating or obscuring that information could reasonably be expected to influence decisions that they make on the basis of the undertaking's sustainability statement" (ESRS 1, 2024: paragraphs 49 and 48).

Stakeholders are fundamental when it comes to materiality assessment, as they can impact the company and are also affected by the company's operations.

According to ESRS, there are two main groups of stakeholders (ESRS 1, 24: paragraph 22):

Affected stakeholders: "individuals or groups whose interests are affected or could be affected – positively or negatively – by the undertaking's activities and its direct and indirect business relationships across its value chain";

Users of sustainability statements: "primary users of general-purpose financial reporting (existing and potential investors, lenders and other creditors, including asset managers, credit institutions, insurance undertakings), and other users of sustainability statements, including the undertaking's business partners, trade unions and social partners, civil society and non-governmental organisations, governments, analysts and academics."

Some stakeholders may be part of both these groups, therefore, effective engagement with them is central to the materiality assessment process.

3.3 Materiality Assessment

Material refers to the quality of being relevant or significant, and applied to this context it means issues that are relevant in the ESG lenses. "In a sustainability context, materiality expands and challenges the traditional definition by including the environmental and social impacts of corporate activities, and, rather than narrowly focusing on the financial considerations of shareholders, it reflects a larger scope of information users" (Puroila & Mäkelä, 2019). To whom these issues are relevant is an important question and here lies the difference between GRI and SASB, as discussed in the previous chapter. GRI discusses

topics material to the firm and stakeholders (GRI, 2024), while SASB focuses on issues that are financially material, and directed at investors (SASB, n.d.).

“Successfully leveraging sustainability initiatives requires firms to know which ESG factors are financially material. As a result, the identification of material ESG issues could help firms to understand where they are likely to positively impact society and simultaneously boost business performance” (Farber & Reichert, 2023). This identification of material ESG issues, or materiality assessment, “is a first step that firms can take to translate stakeholder concerns into an agenda of action”, the same authors write.

Adding to the materiality assessment case, Kaspersen and Johansen (2023), citing Canning et al. (2019) write that “the understanding of what is material is likely to be heavily informed by the actors’ motivations.” This means that, unlike in financial reporting, when it comes to sustainability reporting, different users may project a different level of importance to the issues disclosed, depending on their background, interests and beliefs.

It was already discussed the role SASB wants to play in materiality assessment, by signalling which issues are financially material depending on the firm’s sector (financial materiality dimension), while GRI provides a good framework to assess a company’s impact on the economy, environment and people (impact materiality dimension). EFRAG’s document on materiality assessment includes a chapter on leveraging other sources/standards to execute a materiality assessment under the EU’s framework. It states that the impact dimension is the same under GRI Standards and ERSR even if “the scope of environmental, social and governance matters under the GRI may not exactly be the same as that of the ESRS” (EFRAG IG 1, 2024: chapter 4.1 paragraph 138), adding that “an assessment performed under the GRI Universal Standards constitutes a good basis for the assessment of impacts under the ESRS”.

For the financial materiality dimension, ESRS considers itself aligned with the International Sustainability Standards Board (ISSB), an independent standard-

setting body within the IFRS (International Financial Reporting Standards). The definition of financial materiality between the two standards is aligned, as both consider it “the identification of information needed by primary users of general-purpose financial reports when making decisions relating to the provision of resources to the undertaking” (ESRS 1, 2024: paragraph 48, aligned with IFRS S1 paragraph 1). Therefore, the same financial materiality assessment process can support the identification of the risks and opportunities for both IFRS and ESRS purposes.

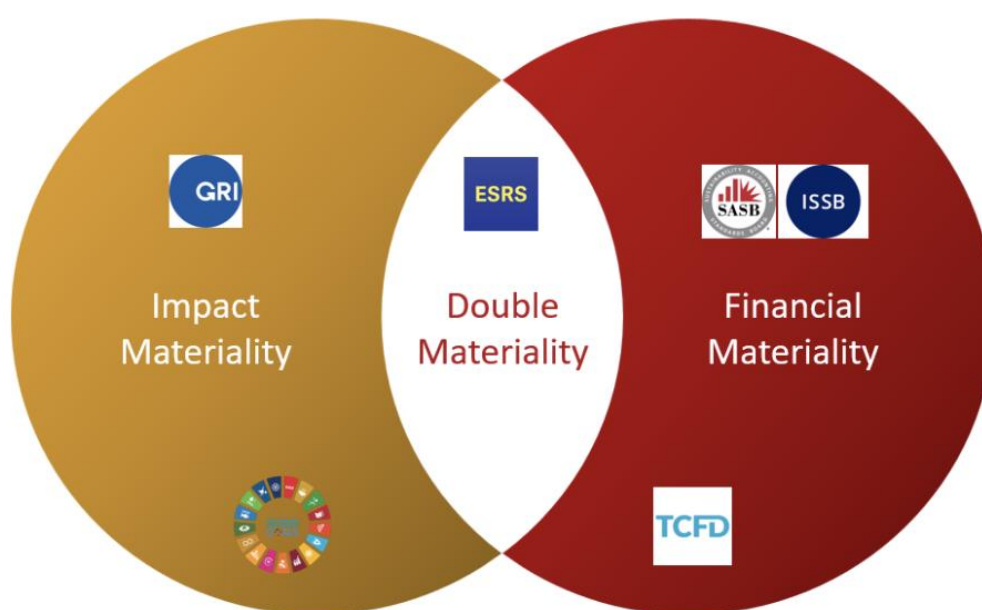


Figure 2 Approaches to materiality by ESRS, GRI and SASB. Source: [actingresponsibly.com](https://www.actingresponsibly.com)

IFRS S1 requires a reporting entity to refer to and consider the applicability of the disclosure topics set by SASB. Following ESRS 1 AR 4, a company can consider the IFRS standards as a source of possible entity-specific disclosure.

In conclusion, adding to the disclosure of material matters identified during the materiality assessment process, a company may also provide additional information stemming from other legislation and generally accepted

sustainability reporting standards and frameworks, as are the cases of GRI and SASB.

This chapter introduced the ESG phenomenon, described the evolution of ESG reporting in general terms and discussed materiality assessment. The following chapter will present a timeline of ESG reporting specifically in Europe, and a discussion about policymaking and legislation. The sustainability standards in effect in Europe will be presented and discussed, followed by a description and comments on the implementation guide on materiality assessment developed to be used by European companies.

4 ESG Reporting in Europe

Policy Making and legislation regarding non-financial matters in Europe dates back to 2014.

4.1.1 Policymaking Timeline

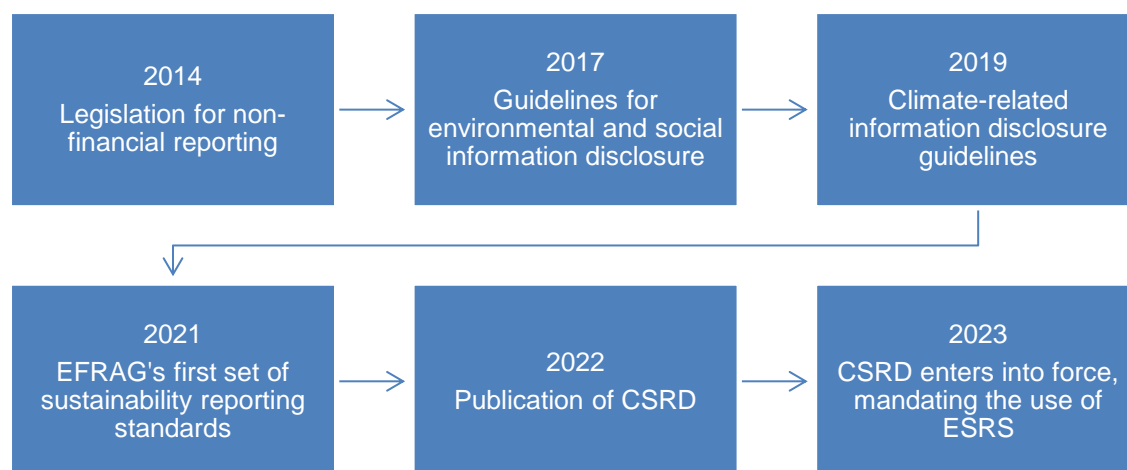


Figure 3 Policy Making Timeline

In 2014, legislation for non-financial reporting was adopted. Three years later, in 2017, guidelines to help companies disclose environmental and social information were published. These guidelines were not mandatory, allowing companies to decide whether to use international, European or national guidelines according to their own characteristics or business environment (EC, n.d.). In 2019, a new supplement to these guidelines was published, more directed at climate-related information, adding to the guidelines already in existence.

EFRAG (European Financial Advisory Group) reported the development of EU sustainability reporting standards in March 2021, initiating the process of creating a set of reporting standards to be used in the EU.

In 2022, a political agreement between the European Parliament and the Council led to the publication of the Corporate Sustainability Reporting Directive (CSRD), requiring companies to report on the social and environmental risks they face, and how their activities impact people and the environment. In the same year, EFRAG published its first draft of EU sustainability reporting standards.

In 2023, the Corporate Sustainability Reporting Directive entered into force. It mandates that companies subject to CSRD have to report according to European Sustainability Reporting Standards (ESRS). Companies will have to apply the new rules for the first time for the financial year of 2024, for reports published in 2025. It applies to all large companies and listed companies, except listed micro-enterprises (EC, n.d.).

4.1.2 ESRS

ESRS is organized into 12 categories, as seen in the table below:

Table 1 ESRS categories. Source: Annex I to Commission Delegated Regulation (EU) 2023/2772

ESRS 1	General requirements
ESRS 2	General disclosures
ESRS E1	Climate change
ESRS E2	Pollution
ESRS E3	Water and marine resources
ESRS E4	Biodiversity and ecosystems
ESRS E5	Resource use and circular economy
ESRS S1	Own workforce
ESRS S2	Workers in the value chain
ESRS S3	Affected communities
ESRS S4	Consumers and end-users
ESRS G1	Business conduct

The objective of ESRS 1 (General requirements) is to specify the sustainability information companies should disclose, specifically, about their material

impacts, risks and opportunities (IROs) in relation to environmental, social and governance sustainability matters. Information disclosed in accordance with ESRS standards enables users of sustainability reports to understand the company's material impacts on people and the environment and the material effects of sustainability matters on the company's development, performance and position. It does not require the disclosure of information deemed as non-material by the company.

This Standard (ESRS 1) provides an understanding of the architecture of ESRS, the drafting conventions and fundamental concepts used, and the general requirements for preparing and presenting sustainability information.

ESRS 2 (General disclosures) sets out the disclosure requirements that apply to all companies regardless of their sector of activity and apply across sustainability topics. Companies shall apply the Disclosure Requirements set in topical ESRS, including their data points, concerning IRO-1 (Description of the processes to identify and assess material impacts, risks and opportunities), as well as for other material topics resulting from the materiality assessment conducted by the company.

Concerning the other categories of ESRS, companies are not mandated to disclose them if they conclude the topics to be non-material, and omission from the sustainability statement is allowed. However, it shall disclose a detailed explanation of the conclusions of its materiality assessment regarding the topic, as with the example of ESRS E1 Climate change (ESRS 1: chapter 3.2 paragraph 32).

4.1.3 EFRAG Document on Materiality Assessment

ESFRAG IG 1 is an implementation guide on Materiality Assessment, developed for use by large listed and unlisted companies that are subject to CSRD.

Firstly, it states that ESRS sustainability statements must include relevant and faithful information about the company's IROs, across environmental, social and governance matters following the double materiality concept. The Materiality Assessment process must consider the entire company's value chain – downstream and upstream, in addition to its own operations.

Identified material IROs related to a sustainability matter are initially referred to according to the related Requirement Disclosure. Secondly, entity-specific disclosure on the matter should be provided in case ESRS does not sufficiently cover the IRO. The company assesses the significance of the information, as well as its decision-usefulness.

ESRS 2 requires disclosure of cross-cutting matters, policies, actions and targets, regardless of the materiality assessment outcome. Metrics are subject to materiality assessment, with information included if assessed as material and omitted if not. Omissions are useful sustainability-related information, supporting the coherence of the sustainability statement and fair coverage of sustainability matters.

ESRS does not mandate a specific process or sequence of steps for materiality assessment, the process is left to the company's judgement but it should reflect its facts and circumstances. ESRS illustrates a materiality assessment process using the following steps: a) understanding the context; b) identifying actual and potential IROs related to sustainability matters; c) assessing and determining material IROs related to sustainability matters; and d) reporting (ESFRAG IG 1, 2024: paragraph 66).

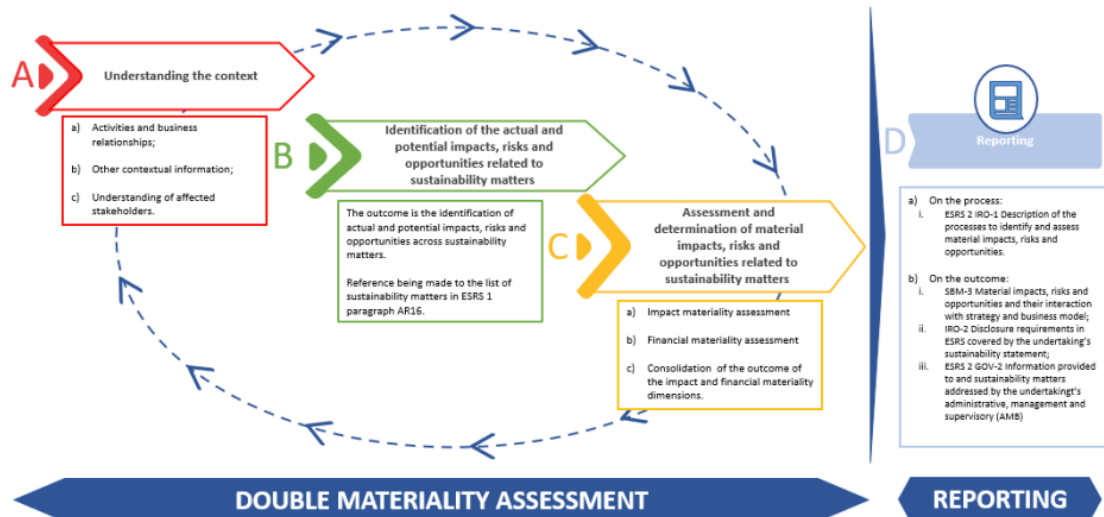


Figure 4 Example of a materiality assessment process. Source: EFRAG IG 1.

International instruments of due diligence referenced in CSRD point to stakeholder engagement to seek input and feedback to understand concerns and evidence about actual and potential impacts on people and the environment (EFRAG IG 1, 2024: paragraph 104). This allows the company to substantiate the importance of sustainability matters from the point of view of affected stakeholder groups (EFRAG IG 1, 2024: paragraph 105). This practice is in conformity with the ESRS. However, the guide does not mandate specific behaviour on stakeholder engagement. The due diligence process can help to identify and assess actual and potential negative impacts, and materiality for reporting purposes based on the criteria of severity and likelihood (EFRAG IG 1, 2024: paragraph 107).

The materiality of impacts for reporting purposes is assessed against criteria of severity and likelihood. This also includes setting appropriate quantitative and/or qualitative thresholds. Severity is based on the scale, scope and irremediable character of negative impacts and the scale and scope of positive impacts (EFRAG IG 1, 2024: chapter 3.6).

Companies are to assess the materiality of their risks and opportunities based on appropriate quantitative and/or qualitative thresholds related to anticipated

financial effects on performance, financial position cash flows and access to finance, including the cost of capital (EFRAG IG 1, 2024: paragraph 89).

As mentioned previously in the double materiality chapter, in relation to the interoperability of ESRS with other assessment tools, such as GRI Universal Standards and ISSB Standards, the first constitutes a good basis for impact assessment (EFRAG IG 1, 2024: paragraph 138) and the latter for financial materiality (EFRAG IG 1, 2024: paragraph 140-141).

After completing the materiality assessment process, the following must be disclosed: a) the process to identify and assess the material IROs (ESRS 2 IRO-1); b) the interaction between material IROs and the company's strategy and business model (ESRS 2 SBM-3); and c) the Disclosure Requirements under the ESRS covered by the sustainability statement (ESRS 2 IRO-2).

After the presentation of ESG timeline evolution in Europe, its reporting standards, and a discussion about the materiality assessment implementation guidelines, the following chapter discusses relevant similar studies.

5 Relevant Literature

The present chapter aims to discuss relevant literature on sustainability, materiality, and materiality assessment.

Scholarly work on sustainability materiality has increased exponentially since the 2010s (Fiandrino, Tonelli & Devalle, 2022). Despite discussions on the topic for several decades, a unanimous definition of materiality has not yet been agreed upon. Garst, Maas & Suijs (2022), when discussing the materiality definition from sixteen different organizations, argued that a lack of consensus in defining the concept "allows room for managerial discretion on materiality decisions", leading to a common practice where materiality assessments are conducted by the firm without standardized methodologies. It is important to study how companies understand materiality and how this understanding

impacts their materiality assessments because, from the starting point, the several international entities influencing the regulation of sustainability reporting differ from one another as they interpret information, stakeholder, and impact differently, and not always clearly (Cristofaro & Galluscio, 2023). The studies of Taubken and Feld (2018) and Garst et al. (2022) provide an overview of the different materiality definitions and how they contribute to each user reaching a different output in their materiality assessments. As CSRD enters into force, the European Commission's definition of double materiality will unify the understanding of materiality in sustainability.

Approaches among scholars to research materiality assessment fall within three types of studies: i) inductive content analysis of sustainability reports where data is collected through the means of keyword search (Beske, Haustein & Lorson, 2019), Farooq, Zaman, Sarraj & Khalid (2020), Dragomir et al. (2024)); ii) qualitative content analysis, where data is scrutinised through several rounds of readings to draw conclusions (Puroila & Mäkelä (2018), Torelli, Balluchi & Furlotti (2019), Miettinen (2024); and iii) qualitative and thematic analysis of data gathered from semi-structured interviews (Lakshan, Low & de Villiers (2021), Svensson (2024), Laine (2024)). These categories were created for this thesis and not provided by the authors of the studies.

This thesis follows the latter two discussed approaches, qualitative content analysis of sustainability reports, and qualitative and thematic analysis of a semi-structured interview.

Puroila and Mäkelä (2018) described their methodology as scrutinizing individual elements of materiality to draw conclusions about current practices. According to the same authors, rather than comparing individual reports, this type of analysis focuses on looking for similarities and patterns across the whole data, which allows analysis of the phenomenon more extensively. By also noticing the absence of information and what type of information remains obscure in some reports, qualitative content analysis triggers a search for certain types of information in other reports. In agreement, Miettinen (2024)

gave grounds for empirical analysis to gain insights into the current sustainability reporting practices, in opposition to providing quantitative data or covering a large sample of companies. Using the READ procedure, data retrieved from the reports was compared with each other to identify differences between companies and to find out whether their materiality definitions or processes for conducting materiality analysis reflect the development of the regulatory environment.

Two of the studies discussed implemented semi-structured interviews in their methodologies, Lakhsan et al. (2021) and Laine (2024). Semi-structured interviews are used to gather data which are analysed qualitatively. Lakshan et al. used semi-structured interviews with 55 integrated reporting preparers. As a reason for their choice, they stated that semi-structured interviews “allow the interviewer to explore, probe and ask questions that will elucidate and illuminate the phenomena” (Lakshan et al., 2021). A thematic analysis identifies, analyses and interprets themes and patterns from the qualitative data. The data should be analysed in a meaningful methodological manner, in order to provide useful and relevant research results. Thematic analysis is widely used for data obtained through semi-structured interviews. Laine (2024) chose this method as it serves the purpose of identifying patterns in how different companies conduct their materiality analysis, which is also one of the purposes of this thesis. It is important to interview and hear representatives from corporate sustainability departments working hands-on and in significant roles with the implementation of DMA, as they provide additional information not disclosed in sustainability reports, and, therefore, unattainable from qualitative content analysis.

6 Findings

This chapter discusses the study's findings. After analysing 13 company sustainability reports, a general idea was achieved about how the double materiality assessment processes are implemented. It is important to note that companies take different approaches to writing their reports due to still-inexistent disclosure procedures.

The next section discusses the findings from qualitative document analysis. The following one discusses the findings from the semi-structured interview.

6.1 Qualitative Analysis Findings

This section of the thesis discusses the qualitative analysis findings of the 13 sustainability reports used as samples.

6.1.1 Initial Findings

The first aspect to note is that all 13 analysed companies mention the execution of a double materiality assessment and preparations for CSRD compliance in the upcoming year.

“During the end of 2023, Outokumpu started to conduct a double materiality analysis in preparation for the Corporate Sustainability Reporting Directive (CSRD), which the company will start reporting on in 2024.” (Outokumpu, 2023: 35)

This is a recurring statement in the reports analysed. Companies state that a double materiality assessment was made during 2023 to be applied to the 2024 annual report, such as Valmet did. “In late 2023, we started a double materiality analysis to comply with the upcoming Corporate Sustainability Reporting Directive (CSRD)” (Valmet, 2023: 17). This is a common procedure, possibly explained by the fact that the EU reporting directives are fairly recent, so companies used the resources available until they were published. The same company has published its 2023 annual report using the GRI framework. “In accordance with the GRI 1: Foundation standard, the principles for defining report content were applied in determining material topics” (Valmet, 2023: 17).

As the EU CSRD reporting framework will enter into force only for the reporting year of 2024, some companies still report under the GRI reporting framework, as mentioned above, as in the case of Kesko group. “This report has been prepared in accordance with the GRI Standards: Core option. Topic-specific Disclosures are reported with respect to the material topics for Kesko. A

comparison of the contents of the report and the GRI standards is given in the GRI index.” (Kesko, 2023: 112).

Konecranes, in addition to using the GRI standards, also discloses material indicators using SASB standards. “Along with our GRI Index, we are disclosing Sustainability Accounting Standards Board (SASB) indicators deemed material for our company. In accordance with our industry, we are using the standard tailored for Industrial machinery and goods, version 2018-10” (Konecranes, 2023: 57).

All 13 companies mention reporting under the GRI reporting framework, and, in addition, Huhtamaki and Konecranes report also using the SASB standards. Dragomir et. al (2024) discussed that large companies apply more than one sustainability reporting standard, arguing that using different or even contradictory guidelines negatively affects their reporting process. This claim argues for the importance of convergence among standard setters on aspects of critical importance (such as double materiality), which can help improve the quality of corporate reports.

Regarding the periodicity of materiality assessments, there is no consensus between the companies analysed. UPM writes that a materiality analysis is conducted every year (UPM, 2023, 60); Valmet (Valmet, 2023: 17) mentions when materiality assessments were conducted – 2013, 2018, 2021, and the late 2023’s double materiality analysis.

However, several point to similarities between previous assessments and recent ones. One example is Stora Enso. “During 2023, Stora Enso updated its materiality analysis (...) The analysis was built on the previous assessment conducted in 2020 (...) The outcome of the 2023 assessment confirmed that the most material topics for Stora Enso remain the same as those in 2020, but some areas have grown in importance” (Stora Enso, 2023: 36).

The previous citation’s theme is also recurrent; companies which performed new materiality assessments, now under the double materiality approach,

mention that their material issues are not necessarily new, but the weight of importance of some material issues has changed. Huhtamaki is one example: “While we regularly update our materiality assessment, the material sustainability topics tend to remain the same over the years, with only slight variations to their relative importance” (Huhtamaki, 2023: 144). Tietoevry reached the same conclusion: “The materiality reassessment in 2022 led to no major changes to the material topics reported, and it remains valid for 2023 as well. Additionally, the result of the DMA carried out during 2023 indicated that no major changes to the material topic is needed” (Tietoevry, 2023: 19).

6.1.2 Stakeholder Engagement

The engagement with affected stakeholders is central to the undertaking’s due diligence and impact assessment (ESRS 1: paragraph 24). The undertaking may engage with affected stakeholders or experts to provide input or feedback on the conclusions of the materiality assessment (ESRS 1: AR 8).

All companies list their main stakeholders in a very general form, being customers, owners, suppliers, and society in general, including local communities, educational institutes, public authorities and non-governmental organisations. There is usually no mention of how stakeholders are identified specifically but Cargotec (Cargotec, 2023: 23) writes that stakeholders are identified “based on both their potential influence on Cargotec and our potential impact on them”, which is a general framework to identify stakeholders, despite not providing much information.

This section aims to understand how companies engage with their stakeholders. For that, the most common practices are analysed through examples.

Most common practices for stakeholder engagement:

- Online surveys and questionnaires

A common practice for stakeholder engagement described by the companies is online surveys and questionnaires. Valmet (Valmet, 2023: 17) writes that it “actively collects feedback from its stakeholders through specific surveys”. These surveys serve broad business purposes, one of them being sustainability issues, as in the example of Fortum, “(...) The surveys also provide information about sustainability trends and risks. The results are also used in business planning and in identifying priorities for sustainability” (Fortum, 2023: 45).

- Digital portals and collaboration platforms

A similar form for the companies to interact with stakeholders is through digital platforms, for example, “Valmet has an external reporting portal for its stakeholders for collecting feedback on and managing events related to health, safety, environment and continuous improvement” (Valmet, 2023: 17).

- Participation in seminars and workshops

“Stakeholders were engaged through interviews and workshops” (Kemira, 2023: 8). Workshops can be a way to facilitate stakeholder engagement, as usually they are done in larger groups but still offer the advantage of close and direct contact between the participants. Orion also used this tool, “external stakeholders were consulted through a stakeholder survey and in workshops” (Orion, 2023: 16).

- Individual or group meetings/interviews

Kemira engaged with its stakeholders using interviews when determining its material topics (Kemira, 2023: 8). This approach to stakeholder engagement possibly limits the number of people involved in the process due to time constraints but allows more detailed insights into the stakeholders’ views.

Outokumpu, with identified stakeholders in several parts of Europe, also used meetings in person to engage with them, “(...) stakeholder dialogues were carried out locally at each site in Europe, consisting of, for example, workers and various local community representatives in the areas where we operate” (Outokumpu, 2023: 80).

- Membership in national and international organisations

Many companies are members of national and international industry associations. All reports analysed mention active participation in the industry's trade association, national and international. On the one hand, companies try to influence EU directive proposals on sustainability and industry growth, on the other hand, they participate in working groups and seminars where they receive support on material issues identification and legislative matters, for example. In the words of Wärtsilä (Wärtsilä, 2023: 35), "We also participate and hold memberships in organisations that are significant to the company's business strategies and markets".

- Others

A type of stakeholder engagement common in the reports is companies' interactions in social media. These can be mainly a one-way communication channel, as in the case of Konecranes (Konecranes, 2023: 54), "We communicate with the broader external community through content delivered via channels such as Konecranes.com and through social media platforms like LinkedIn, Facebook, Twitter and Instagram." Or they can promote dialogue between companies and society in general, as Tietoevry writes, "Crucial insights are also gathered through various escalation channels. Social media plays a significant role in facilitating dialogue with both internal and external stakeholders" (Tietoevry, 2023: 17).

The table below summarises the analysed companies' methods of engaging with their stakeholders (by number of occurrences), according to their reports.

Table 2 Stakeholder engagement methods.

Method of stakeholder engagement	Number of occurrences (out of 13)
Online surveys/questionnaires	11
Digital portals/collaboration platforms	10

Individual or group meetings	11
Participation in national or international organisations	10
Social media	5
Programs/joint projects	7

Joint projects are activities developed between companies and local associations or organisations with the purpose of creating a positive impact on local communities and the environment. Throughout the reports analysed, several examples of these can be found, such as UPM's participation in the restoration of the Hiitolanjoki River in cooperation with The South Karelia Foundation; the industrial-scale paper cup recycling project launched in 2022 with collaborations from Stora Enso and Huhtamaki; Tietoevry partnered with the Swedish organisation Friends and the University of Örebro to create a preventive anti-bullying tool with pilot projects already in place.

6.1.3 Materiality Assessment Process

Regarding materiality assessment processes, companies report with different levels of detail about what was done. To develop shared knowledge, looking at the ones that better explain the steps taken is important.

In this section, 4 examples will be discussed. Although methodological differences can be noticed, all examples present patterns that provide insights into how companies conduct a materiality assessment process.

In general, companies identify 4 phases in their materiality assessment processes: 1) understanding the company's business model, value chain and overall context, together with desktop analysis to identify typical industry IROs

using industry benchmarks; 2) creating a preliminary list of potential and actual impacts; 3) assessing the significance of these impacts to prioritise them, including through stakeholder engagement; 4) top management's validation of the identified IROs.

The description of the phases reported by the companies seems to be in line with the example provided in EFRAG's Materiality Assessment Implementation Guide (see Figure 4). To better understand these phases, 4 examples will be analysed individually. Some of the reports analysed can be characterised by opaqueness regarding their materiality assessment process description, which does not necessarily mean it was not conducted properly, however, a truthful judgement cannot be made if enough detailed information is not provided.

In spring 2023, Orion conducted a materiality assessment following the double materiality approach with an external consultancy, which is part of its background documentation. It covered the whole value chain and business operations. The working group was composed of internal stakeholders from different business units, and external stakeholders were consulted through a stakeholder survey and in workshops. The company described its materiality assessment in the following way:

- First phase: a long list of potential material sustainability topics was created based on ESRS. Other voluntary reporting frameworks and background documentation were used to ensure the relevance of the topics from an industry perspective.
- Second phase: an online stakeholder study was conducted to ensure stakeholder engagement and to better understand how affected stakeholders may be impacted. A preliminary shortlist of material sustainability topics was formulated with the stakeholder input on impact materiality, in addition to a desktop review of relevant materials, and work meetings and discussions.
- Third phase: assessment and placement of the topics on a scale of 1-3 in terms of their impact and financial materiality. Actual and potential impacts, dependencies, risks and opportunities, and short-, medium-, and long-term time horizons were considered. This process included a workshop session where an external consultancy's assessment tool was utilised, supported by desktop analysis of impacts. Negative impacts were assessed and placed on

a scale based on their relative severity and likelihood, and positive impacts based on their relative scale, scope, and likelihood. A sustainability topic was considered not material from the impact side if its impacts received a value of 1 or less. For the financial materiality, the assessment was based on the likelihood, magnitude, and nature of the effect of the identified risks and opportunities. The working group validated the assessment results after the workshop.

- Fourth phase: the assessment results were reported and presented to Orion Executive Management Board.

Huhtamaki's materiality assessment was last updated in 2022, where it mapped out actual and potential, negative and positive impacts, and included the perspectives of different stakeholders, the process included:

- Mapping the company's value chain, activities and business relationships to increase understanding of the industry's impacts, and other industries which are part of the value chain.
- Conducting a desktop analysis and dialogue with stakeholders to produce a preliminary list of actual and potential impacts. The goal was to gain an enhanced understanding of its operations, and identify the type and severity of external impacts.
- Assessing the significance of impacts in a quantitative form, combining the results of the stakeholder dialogue and the views of external sustainability experts. Negative impacts were assessed based on severity as a combination of scale, scope and remediation. Positive impacts were assessed based on scale and scope only. For potential impacts, probability was also taken into account.
- Prioritizing impacts and setting thresholds based on internal discussions and with external stakeholders. The final list of material topics was validated in a cross-functional workshop, which included members of the Global Executive Team.

Huhtamaki conducted a climate scenario analysis and other risk assessments as part of their financial materiality assessment.

Kemira's materiality assessment was coordinated by an external sustainability subject matter expert, covering the entire value chain, including its activities, and activities in the upstream and downstream value chain. An internal team participated actively through the whole process and stakeholders were engaged through interviews and workshops. The process included the following methods:

- Desk studies based on internal materials – background documentation such as annual reports, strategy materials, assessments of environmental and human rights risks and impacts,

and surveys from customers and workforce; complemented by identifying typical industry impacts, risks and opportunities through industry benchmarks.

- Internal working sessions to discuss materiality analysis and potential impact.
- Interviews with internal experts and external stakeholders.
- Internal workshops to assess the impact and financial materiality of the sustainability topics.
- Results reviewed and validated with Kemira's relevant governance bodies.

In connection with the methods discussed, Kemira developed its explanation of the materiality assessment process describing its 6 phases. These are connected and possibly were conducted at the same time.

- An initial collaborative phase with a kick-off meeting to design a double materiality assessment and stakeholder engagement process adequate to the company's context.
- Make a list of topics that are material or could become material across the value chain based on internal company materials, and an external analysis of typically material industry topics. The topics were chosen based on the ESRS standards topic division.
- Engage stakeholders to gather further insight on their sustainability IROs. These results were analysed to be included in the impact and financial materiality assessment.
- Identify and assess impact materiality and financial materiality.
- Validate and finalise the outcomes from the materiality assessment. The results and assessment process were documented to be discussed and approved by the Management Board.
- An ongoing phase aims to integrate double materiality into management practices.

Kemira added that the assessment also decides which topics are material enough to be reported in the upcoming CSRD reporting.

Cargotec conducted a double materiality assessment in 2023 to verify its most material impacts, risks and opportunities for reporting in 2024. It was supported by a third party and considered its entire value chain over the short-, medium-, and long-term time horizons, both from an impact and financial perspective.

The assessment included the following phases:

- Developing a thorough understanding of the company's business model, global presence, products and services, value chain and business relationships, sustainability context, and stakeholders. In this phase, the company conducted desktop research and value chain mapping.
- When assessing impact materiality, the company used input from previous risk and impact assessments and conducted interviews with internal and external stakeholders to identify its actual and potential impacts, positive and negative. The company also engaged with internal substance matter experts and utilised scientific research to identify a broader spectrum of impacts. Risk and impact assessments refer to scenario analysis.

The identified impacts were assessed based on severity (scale, scope, irremediability) and likelihood, and mapped against the ESRS on a sub-topic level. The combination of severity and likelihood determined the materiality of the impact.

- When assessing financial materiality, Cargotec used input from previous risk assessments and the company's general enterprise risk management process to identify risks and opportunities that impact or could reasonably be expected to impact its financial development, performance or position.

Interviews and workshops with experts were conducted to collect more insights and assess the magnitude and likelihood of the risks and opportunities identified. The combination of the likelihood of occurrence and the potential magnitude of the financial risk or opportunity determined its materiality.

- Once IROs were identified, assessed, and consolidated on a group level, they were prioritised based on the scoring and given thresholds. The threshold setting was conducted by group sustainability and business area experts. The impacts, risks and opportunities that exceed the thresholds were deemed material.

In addition to detailing its materiality assessment process, Cargotec reported that its results set the baseline for CSRD reporting in 2024. Concluding, it writes that based on the results, Cargotec will need to report in accordance with ESRS 2, ESRS E1, ESRS E2, ESRS E4, ESRS E5, ESRS S1, ESRS S2, ESRS S4 and ESRS G1.

Synthesising the analysis, all 13 companies disclose conducting a double materiality assessment during 2023 in preparation for CSRD reporting. In relation to the outputs of their double materiality assessments, companies

disclose that no significant changes to their previous assessments were found, however, the importance of some material issues has changed. Companies use online tools to engage with their stakeholders, as online surveys and digital platforms allow them to reach stakeholders on a broader scale. 11 out of 13 companies use online surveys, and 10 out of 13 have digital platforms used to engage with stakeholders. Individual/group meetings (11 out of 13 companies) and participation in industry organisation events (10 out of 13 companies) are also common methods for stakeholder engagement. These allow for closer contact with the different stakeholders to discuss sustainability matters. When analysing the materiality assessment processes, it is verified that most reports fail to describe the process with enough clarity that allow the readers to evaluate it. However, the 4 examples discussed above elucidate to the readers the different steps of a materiality assessment, which provided valuable insights for this thesis's research questions. In general, their methodologies present similarities, and it is also important to point out the stakeholder engagement throughout the process. These companies report engaging with their stakeholders when producing the initial list of actual and potential sustainability material issues and later in the assessment phase when assessing their significance.

The following section of this thesis discusses the findings retrieved from an interview with a sustainability expert from a Finnish company.

6.2 Semi-structured Interview Findings

This section discusses findings from an interview with an ESG Manager from a publicly traded Finnish company. The company in question is working toward publishing its sustainability report for the 2024 financial year under CSRD.

The insights gathered from the interview provide a first-person view of sustainability in general and the transition from voluntary reporting frameworks to ESRS, which were of great value for this thesis.

The company's ESG team is composed of two people, despite many of the employees having tasks related to sustainability matters, such as, for example, recording throughout the year the data needed for reporting.

The interviewee has a strong role related to ESG reporting. "It could be described that I'm the expert on what the CSRD is and about the standards. (..) The topics that are in the standards, and how they are understood." Part of the role is to "make sure that we have everything that we report of; we have all the principles, and we have some metrics and targets (...)".

6.2.1 Initial Findings

An external company led a DMA process during 2023, a long project of almost half a year, in which top management participated actively. The results of it are not in the respective year's sustainability report.

For 2023's sustainability report, they had the support of an external company, which was deemed necessary due to the team's small size. The task was a cooperation of different units within the company, and used external support "to help us to succeed and have everything together", (...) "because we are a rather small team, so we can't handle everything."

The reports analysed in the qualitative analysis sections show that all companies have been reporting on sustainability-related topics using the GRI or SASB frameworks. However, the same does not apply to the company interviewed for this thesis. "The big ones [companies from the same industry] have been reporting according to GRI before but we hadn't". The topic came up when talking about the preparation for CSRD and the difficulties of working with the new reporting framework.

In the interviewee's opinion, the large global companies from the industry might be better prepared for a smoother transition to CSRD. This is because "they have their own strong background experience for the reporting. I think it probably was not that big of an issue for them". An optimistic opinion is shared

regarding the mandatory reporting already for the 2024 financial year, “I think companies would need to be prepared years before they are reporting [under CSRD] but now it’s an efficient way because we need to report. Then everything must be done, so it’s a must (...) it’s the best way to make it happen.”

Each of the companies whose reports were analysed showed different information about the periodicity of new DMAs. The interviewee explains their company’s method, “It’s basically if we find that there is a need. If something changes significantly in our own operations (...)”. In addition, it was added that after the first reports under CSRD start being published they will take a new look at the DMA conducted in later 2023, “Many companies will come in the next wave and we have also to follow up how (...) what topics are material, and that they have seen as material. (...) we have to see what they are reporting and if there is something we are missing. It’s important for us to follow what the other ones are doing in the industry.”

6.2.2 Stakeholder Engagement

As explained by the interviewee, their value chain is quite short. Upstream they procure the raw materials directly from the source, “we have raw material procurement and we get it straight from the source”; Downstream, they sell directly to the customer/end-user, “we work based on the customer’s needs (...) we make customer-specific orders, therefore, we know where all our products go to”. This allows them to know these types of stakeholders very well, and be in contact with them daily; “we have close connections with all the stakeholders that we work with and I think it’s the basis for our company’s business, that we are really connected to the stakeholders”, “our teams communicate every day with the raw material providers, so we have a very good understanding for that part”.

Conducting customer surveys is a strategy also used by this company. A survey of all customers is conducted every year, and one of its sections is related to the materiality assessment. The purpose was to understand how they see the

material topics identified and served as a support for the analysis made. In the interviewee's words: "It was general ideas talking about sustainability matters. It had different questions based on the material topics, not anything very deep."

Because of the value chain's size, they have a closer relationship with customers, and also communicate directly with them, "I've been communicating closer with one of the customers and the feedback [about the DMA process] is very positive."

In regards to engagement with investors, "the management makes most of the dialogue", being part of their everyday tasks and, "information about their needs comes from the dialogue with the financial department."

6.2.3 Materiality Assessment Process

Broadly, the company's materiality assessment process was not much different from the ones used as examples in the qualitative analysis.

As mentioned in the general findings of this section, the double materiality assessment was led by an external company.

- Understanding the context

"First, they started with understanding the whole context. Understand what materials we had already that can be used in the assessment. (...) and we have our own management system from where information was collected." (...) plus, discussions with the top management and stakeholders." Because the company became publicly listed recently, a large part of the background information came from the documentation used in that process.

- Assessing IROs

The second phase was assessing IRO and creating a long list of material topics. For this part, global frameworks were used, as well as similar assessments made previously in Finland. To guarantee the quality of this process, industry sustainability experts were part of the team conducting the

assessment, “in the national framework we have quite a lot of information and also many assessments made in the scale of Finland (...) we had sector-specific information and experts in the assessment”.

The phase included meetings and workshops with top management to discuss sustainability matters and material topics. The background information was based on global frameworks, sector-specific data and knowledge about their sector and operations.

While discussing the close connection with the different stakeholders, the interviewee discussed the importance of industrial associations in Finland and abroad. “The industry associations our company is part of are strong, and we cooperate a lot with them”. This cooperation, in addition to strong knowledge of their own industry and operations, facilitated the identification of IROs.

“There was the IROs assessment, to decide which are material and not material. We found around 70 to 80 topics and now we have around 20 topics as material.”

- Narrowing the topics list

Discussions between the external company, top management, and stakeholders were conducted to narrow the topics list. “There was an internal round when they discussed the topics and the materiality. In it, a lot of background information from the global standards was also used.” The stakeholders who participated in the discussions “were customers and raw material providers because they are really important to us”. From these discussions “they made some corrections based on the stakeholder insights.”

During this process, the external company used the tool Inklus, having obtained the final approval from top management. As mentioned above, the list was reduced to 20 material topics.

- Approval of the material topics

The final list of material topics was approved In a discussion between the external company and top management.

6.2.4 Conclusions taken from the DMA experience

During the interview, there was an opportunity to ask a few questions about the conclusions the company took during the double materiality assessment experience. This section explores insights from those questions.

A. The need for a better understanding of CSRD

Connected with the difficulties of using the new reporting framework, the interviewee shared that the background information about CSRD could have been better understood by the top management. “I think not everyone understood well enough what they were doing (...) it’s hard for people to understand the whole framework idea of the CSRD.”

One of the reasons is the complexity of the frameworks’ language, “the wording is such difficult that is hard for the people who need to take some decisions on how we assess (...) how can we then show that we are also operating to do better; it’s hard to find the connection.”

Another reason is the difference in language between previous frameworks and the CSRD, “we have been using these global frameworks and the whole CSRD language and all the standards globally, it’s a different wording that we use.”

B. The importance of including other internal stakeholders

The mentioned DMA was conducted by an external company with participation from top management. “Now it was built maybe in the wrong direction, it’s hard when everything has been done in the Top Management”. For the interviewee, inclusion from operations personnel would have been important. “When we are conducting the double materiality analysis again, I think it’s really important for us to also include the people from operations.” However, she considers it a

difficult and long task to accomplish, “I know that it will take a lot of time and it needs to be planned really well”, which was not possible to do now due to time constraints and not having previous experience with GRI. To include operations personnel “needs a lot of time. It’s not enough to have some kind of discussion or workshop”, especially because “it’s hard for people to see the connection between the operations and the legislative part” so it takes more time to help them understand.

C. The use of external experts

“I think it was a good idea to use the external experts.” The interviewee suggested that, due to the lack of experience in conducting materiality assessments, it was wise to outsource it to external experts.

However, reflecting on the process and its stakeholder engagement adds that “it would be important to participate from our side, that it’s not only done by the external experts so we could make the stakeholder conversations in a broader scope (...) it’s important to have the company insights and not give it to some outsider to do it for us”. The short time available to conclude the process was one of the limitations experienced, adding to the inexistence of her role inside the company during the DMA. But considering the size of the company, “Our company is such a big company, so we must have that understanding ourselves.”

Concluding on this added: “When it’s an external part conducting it, it’s a bit hard to have a connection.”

D. Understanding the role of stakeholders

Another aspect of improvement pointed out was the understanding of the role of the different stakeholders. “Maybe the stakeholder participation is something that needs to be clarified in the future”. Although companies have been discussing stakeholders, and their participation in the company’s daily life for many years, their role is not yet fully understood. “We understand the role of

customers, but the role of other stakeholders, and external stakeholders, I think it's something we need to think a bit deeper about." To achieve it she argues "there needs to be a lot more connections to different kind of stakeholders, and that we really hear what they are saying."

E. Material topics as short-term versus long-term

When discussing the identification of material topics, the ability to identify a short-term topic versus a long-term one came up. "We think about what the topics are now, but we would need to see it from a different perspective in the future; this is only my view, but the whole sector is a bit behind in this kind of thinking."

In connection with better stakeholder engagement, it was mentioned it would "prevent things not happening, we would have the discussions before, and have good information that we could get from them to do better in our operations based on those opinions." In resume, engaging with stakeholders on a deeper level would allow a better understanding of the sector's material topics in a larger time frame.

F. The role of industry associations

The interviewee was questioned about the role of the national industry associations in supporting the DMA process in preparation for CSRD. The answer was "Actually, this is very interesting. Because I think our association, didn't even understand what this was". Because the majority of the companies part of the association is not to report already in 2025, the association was not ready yet to support. In the meanwhile, the situation has changed and "I know that now they are doing a strong cooperation" because "it's not possible for smaller companies without that support."

G. Transition from GRI to CSRD

The interviewed company has no experience reporting under GRI or other voluntary reporting frameworks, considering it an additional challenge. The large global companies "have been reporting using the GRI and they have their

own strong background for the reporting”, so the transition “probably was not that big of an issue for them”. Reflecting upon the experience, she considers it easier for companies to report under CSRD when they already have experience with other reporting frameworks, “I think companies would need to be prepared years before to report under CSRD.”

H. ESG credit ratings

Discussing stakeholder engagement related to investors, the topic of ESG credit ratings was mentioned. There is doubt about the elements of CSRD that will be part of the ratings, “what will be the part of the CSRD reports that have influence on the ratings, because they don’t even have insight for it.”

According to the interviewee, clarification is needed on these issues. The problems possibly arising are that topics considered material by the credit rating agencies are not material to a specific company, which doesn’t report on them and receives a worse rating. “If they are doing the ratings based on information that would be in the other standards that are not material for us and we don’t give the information, then we get a bad rating.”

7 Discussion

This chapter discusses the findings from the methodological approaches taken. It combines the previous research on the topic discussed in the literature review with findings from the qualitative analysis of publicly traded Finnish companies’ sustainability reports and the semi-structured interview conducted.

7.1 First DMAs, their results and periodicity

With mandatory CSRD reporting approaching for many European companies, an effort has been put into conducting double materiality assessments. Despite the fact that DMA has not yet been disclosed in most of the 2023 sustainability reports, Finnish companies claim to have undertaken it in 2024. Companies have reported that the DMAs conducted are only updates to the previous ones

under other voluntary reporting frameworks, disclosing no major changes and only differences in the importance of particular material issues. The cases of Stora Enso, Huhtamaki, and Tietoevry discussed in the qualitative analysis show it. The same conclusion is presented for the case of the interviewed company. Companies arriving at the same results on their new materiality assessments as before may indicate that impact assessment using the GRI framework was a good starting point for the same process under CSRD, which agrees with EFRAG's statement that "the impact dimension is the same under GRI Universal Standards and the ESRS even if the scope of environmental, social and governance matters under the GRI may not be exactly the same as that of the ESRS, (...) assessment performed under GRI Universal Standards constitutes a good basis for the assessment of impacts under the ESRS (EFRAG, 2023: paragraph 138)."

Companies do not explain the reasons for conducting new materiality assessments nor explain the reasons for the periodicity of materiality assessments disclosed. In the semi-structured interview the subject was discussed, arguing that new materiality assessments are made when significant changes in the company's operations occur. It was added that when the 2024 reports under CSRD are published, an industry analysis will be made, checking if potential material topics were missed, and following up on industry competitors. With CSRD entering into force, it is expected that many companies will analyse each other, and sustainability reporting will evolve as companies learn from each other.

7.2 Stakeholder Engagement

Relatively to stakeholder identification, findings from the qualitative analysis and the semi-structured interview are in line with Beske, Haustein and Lorson's (2019) conclusions, that companies "show commitment to stakeholder engagement, but fail to clarify the underlying processes because of missing explanations."

Companies present patterns of action when engaging with the designated stakeholders. The trend seems to be the creation of dialogue platforms, where stakeholders can share their opinions with the company, and not only one-way communication channels where the company informs stakeholders. Examples are online surveys, digital feedback platforms, meetings and workshops, membership in industry associations, and social media. Although there is no reference to how the stakeholder's opinions influence companies' governance, these practices are closer to Miettinen's (2024) highlights that argue that "Sustainability reporting should be seen as a tool for corporate governance instead of a one-way communication platform."

Engagement with stakeholders during the materiality assessment process was not done at the same stages by the different companies. While Orion reports using stakeholder engagement in the impact materiality assessment phase, Huhtamaki also consulted external stakeholders to prioritise impacts and set thresholds. Kemira surveyed its customers during the understanding of the company's context phase and later discussed with external experts the materiality analysis and potential impacts identified internally to gather further insights on IROs. Cargotec conducted interviews with external stakeholders to inform the identification of actual and potential impacts. Interviews and workshops with experts were conducted to collect more insights to assess financial materiality.

The interviewed company conducted discussions with stakeholders to understand the business context. When assessing IROs, external industry sustainability experts were brought to discuss. To narrow the topics' list, external stakeholders from the value chain were also included. After approval from top management and closing the DMA process, it is in conversation with clients to gather feedback about the whole process. These practices are in agreement with Miettinen (2024) when the author argued that stakeholder engagement should be clarified to be a continuous process.

“Even though the ESRS do not mandate behaviour [for stakeholder engagement], the undertaking is required to disclose whether and how the materiality assessment process identifies and assesses its impacts, including consultation with affected stakeholders, to understand how they may be impacted” (EFRAG, 2023: paragraph 102). However, Miettinen (2024) argues that “to enhance the credibility of reports, companies should be required to explain how they identify the stakeholders relevant to the company’s materiality assessment and how their input has been considered in decision-making.” Torelli et al. (2020) consider the stakeholder engagement process as essential in relation to the quality of the materiality analysis process. They highlight that “without a large and mostly direct stakeholder engagement, companies are not able, in most cases, to reach high levels of implementation of the materiality principle.”

As seen in the Findings chapter, companies engage with stakeholders at multiple phases of the DMA process. Laine (2024) arrived at the same findings after interviewing fifteen companies, concluding that “there is not yet a clear approach to stakeholder engagement that all companies follow.”

7.3 Materiality Assessment Outsourcing

Another finding of this thesis is that companies report the outsourcing of DMA processes to external experts, as Laine (2024) and Dragomir et al. (2024) also found out. There is no information on what type of consulting firms were used from the data collected. However, Laine (2024) argues that consultants do not have the latest sector-specific expertise or understanding of the business as the company’s internal experts. The interviewed company opted to include industry sustainability experts, which can help bridge that gap. Industry associations also seem to have an important role by promoting discussions involving all industry actors.

7.4 Materiality Assessment Process

The four examples of materiality assessment discussed in the qualitative analysis and the interviewed company present methodological differences to Garst, Maas, and Suijs' article (2022) although there are several similarities. The California's Management Review article argues for six steps in the materiality assessment process while companies report on four phases for completing the process. The companies' chosen methodology aligns with EFRAG's implementation guide on materiality assessment, indicating a possible good preparation for CSRD reporting in this sense.

Independent of whether there is stakeholder participation, the companies whose reports were analysed and the interviewed company report on similarities in their materiality assessment processes. In a summarized form, companies report their materiality assessment processes to be:

- a. A desktop study of the company's context, where the business model, value chain and overall context are analysed. Industry benchmarks are often used to support the desktop study.
- b. Building a preliminary list of potential and actual impacts, gaining an enhanced understanding of all business operations. A long list results of this stage, as it includes all impacts identified. Industry benchmarks, scientific studies and competitors' analysis add useful information to create the list.
- c. Assessing the identified topics based on severity and likelihood for impact materiality, and likelihood and potential magnitude for financial materiality. These are mapped against the ESRS to determine their materiality.
- d. Narrowing the list based on the previously attributed scoring. Approval of the final list of IROs to be reported.

7.5 Insights from a DMA Experience

The interview provided valuable insights about a company's experience from a DMA process, which cannot be taken from analysing sustainability reports.

These insights are related to the experience during the process, its analysis, and the conclusions reached.

The complexity of CSRD, whether due to its novelty or the overall complexity of the framework, still challenges companies. The interviewed company argued that the people involved still didn't understand well enough the whole framework, its complex language, and how to use it in decision-making.

Although arguing about the importance of including more stakeholders in the process, apart from the top management, it was also discussed that it would be a difficult task, requiring a long time to implement. According to the interviewee, delegating the DMA to top management and an external consultant was building the process in the wrong direction, as personnel from the operations would add value to the materiality assessment process. The complexity of CSRD challenges companies to spend time instructing their internal stakeholders on what the framework is, what it means for the company, and how it can be applied in operations. In short, the connection between the legislative part and operations.

The use of external experts to conduct DMA is well-established in Finnish companies. The interviewed company considered it a wise decision due to the lack of experience in such matters. However, they argued about the importance of more internal participation in the process. It would facilitate a deeper connection with the company's stakeholders, on a broader scope, and use the industry-specific knowledge to develop an understanding of their own material topics themselves.

Companies need to deepen their understanding of the stakeholder roles. Discussions about their importance and participation in the company's operations are common, but their role in sustainability matters is still not fully understood. It was argued that there needs to be a deeper connection with the different stakeholders and their opinions to be heard.

A better understanding of material topics could be achieved with deeper stakeholder involvement. Attentions are directed at what constitutes a material topic in present times when applying a larger time frame is fundamental, and stronger stakeholder participation, according to the interviewee, provides important insights that can be useful.

Industry associations can play an important role in bridging the gap between the lack of experience from companies in materiality assessment and the lack of industry-specific knowledge from external consultants, contributing to the enhancement of companies' internal expertise. As smaller companies will have to report under CSRD in the future, their support with legislative matters and materiality assessments is important, due to the lack of resources and expertise these companies seem to have. It becomes more relevant for companies without experience using the former voluntary reporting frameworks.

Finally, the interviewed company raised doubts related to ESG credit rankings. There are uncertainties about the elements of CSRD that ESG credit ranking firms will consider to calculate the ratings, worrying companies that if those elements are not reported even if they don't constitute an identified material issue, a bad rating will be received.

8 Conclusion

This thesis briefly explored the history of ESG, ESG reporting, and materiality assessment in sustainability. The phenomena were also discussed by looking into ESG policymaking in Europe, the European Sustainability Reporting Standards (ESRS), and analysing the recent guidelines for materiality assessment in the context of CSRD.

The relevant literature presented was used as a window into how experts, academia and researchers approach these subjects. By resourcing to the same methodologies, a study was conducted to understand if Finnish companies present similar methods for materiality assessment (Q1). The study looked to

discover if the same companies are following EFRAG's implementation guidelines for materiality assessment (Q2). In addition, the thesis investigated how Finnish companies engage with their stakeholders in the materiality assessment process (Q3).

To answer the research questions, the study looked into 13 sustainability reports and a qualitative analysis from a semi-structured interview. From the sample companies, 4 examples were used to discuss materiality assessment methods. In addition, data from the semi-structured interview contributed to the discussion. As discussed in Chapter 7, these companies present similar methods for materiality assessment (Q1), with small differences. Despite the small differences, their methodologies are in line with EFRAG's implementation guide on materiality assessment (Q2) and the example seen in Figure 4. Due to no clear disclosure on their reports, the remaining companies' materiality assessment processes were not discussed. Companies engage with their stakeholders more commonly through online surveys/questionnaires, digital platforms, individual/group meetings and participating in industry association events (Q3).

The results achieved contribute to the current literature on materiality assessment, enhancing the understanding of how companies conduct these processes in comparison to European guidelines to be implemented under CSRD. The study conducted allowed to answer the proposed research questions.

A possible update on the study could be made by analysing the same companies' sustainability reports for 2024, which will be under a mandatory reporting framework.

References

Adams, C.A., Alhamood, A., He, X., Tian, J., Wang, L. and Wang, Y. (2021). The Double-Materiality Concept: Application and Issues. Global Reporting Initiative

Baumüller, J., Sopp, K., 2021. Double materiality and the shift from non-financial to European sustainability reporting: review, outlook, and implications. *Journal of Applied Accounting Research*, Vol. 23 No. 1, 2022, pp. 8-28. Emerald Publishing Limited 0967-5426. DOI: 10.1108/JAAR-04-2021-0114

Beske, F., Haustein, E., Lorson, P. C., 2019. Materiality analysis in sustainability and integrated reports. *Sustainability Accounting, Management and Policy Journal*, Vol. 11 No. 1, 2020, pp. 162-186. Emerald Publishing Limited 2040-8021. DOI: 10.1108/SAMPJ-12-2018-0343

Brundtland Commission, 1987. Report of the World Commission on Environment and Development: Our Common Future. [online] Available at <<https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>> [last accessed 23.03.2025]

Canning, M., O'Dwyer, B., Georgakopoulos, G., 2019. Processes of auditability in sustainability assurance – the case of materiality construction. *Accounting and Business Research*, 49:1, 1-27. DOI: 10.1080/00014788.2018.1442208

Cargotec, 2023. Annual Report 2023. [online] Available at <<https://www.cargotec.com/4930e4/globalassets/files/investors/annual-reports/cargotec-annual-report-2023-en.pdf>> [last accessed 7.3.2025]

Corporate sustainability reporting (no date) European Commission, Corporate Sustainability Reporting. Available at: https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en#:~:text=EU%20law%20requires%20all%20large,on%20people%20and%20the%20environment.

Correa-Mejía, D. A., Correa-García, J. A., & García-Benau, M. A. (2024). Analysis of double materiality in early adopters. Are companies walking the talk? *Sustainability Accounting, Management and Policy Journal*, 15(2), 299–329. DOI: <https://doi.org/10.1108/SAMPJ-07-2023-0469>

Dalglis, S., Khalid, H., McMahon, S., 2020. Document Analysis in Health Policy Research: the READ Approach. *Health Policy and Planning*, 35, 2020, 1424–1431. doi: 10.1093/heapol/czaa064

De Cristofaro, T.; Gulluscio, C., 2023. In Search of Double Materiality in Non-Financial Reports: First Empirical Evidence. *Sustainability* 2023, 15, 924. DOI: 10.3390/su15020924

Dragomir, V.D., Dumitru, M., Chersan, I.C., Gorgan, C., Paunescu, M., 2024. Double Materiality Disclosure as an Emerging Practice: The Assessment Process, Impacts, Risks, and Opportunities. *Accounting in Europe*, Vol. 21. DOI: 10.1080/17449480.2024.2339264

EFRAG, 2024. EFRAG IG 1: Materiality Assessment Implementation Guide. [online] Available at <https://www.efrag.org/sites/default/files/sites/webpublishing/SiteAssets/IG%201%20Materiality%20Assessment_final.pdf> [last accessed 7.3.2025]

European Commission, n.d. Corporate sustainability reporting. [online] Available at <https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en> [last accessed 12.3.2025]

European Sustainability Reporting Standards (2024) ESRS set 1. Available at: <https://xbrl.efrag.org/e-esrs/esrs-set1-2023.html>

ESRS - European Sustainability Reporting Standards (2024) Acting Responsibly. Available at: <https://actingresponsibly.com/esrs-european-sustainability-reporting-standards/>

Farber, V., Reichert, P., 2023. Blended Finance and the SGDs: Using the Spectrum of Capital to de-Risk Business Model Transformation. Springer International Publishing AG, Cham. Available from: ProQuest Ebook Central.

Farooq, M. B., Zaman, R., Sarraj, D., Khalid, F., 2022. Examining the extent of and drivers for materiality assessment disclosures in sustainability reports. *Sustainability Accounting, Management and Policy Journal*, Vol. 12 No. 5, 2021, pp. 965-1002. Emerald Publishing Limited 2040-8021 DOI: 10.1108/SAMPJ-04-2020-0113

Fiandrino, S., Tonelli, A., Devalle, A., 2022. Sustainability materiality research: a systematic literature review of methods, theories and academic themes. *Qualitative Research in Accounting & Management* Vol. 19 No. 5, 2022, pp. 665-695. Emerald Publishing Limited 1176-6093. DOI: 10.1108/QRAM-07-2021-0141

Fortum, 2023. Sustainability 2023. [online] Available at <<https://www.fortum.com/investors/reports-and-presentations/fortum-annual-review-2023>> [last accessed 7.3.2025]

Frostenson, M., 2023. The Performance-Reporting Gap: A Key to Understanding the Relevance of Sustainability Reporting Information to Stakeholders. Springer International Publishing AG, Cham. Available from: ProQuest Ebook Central.

Garst, J., Maas, K., Suijs, J., 2022. Materiality Assessment Is an Art, Not a Science. California Management Review 2022, Vol. 65(1) 64-90. DOI: 10.1177/00081256221120692

GRI, n.d. The value of sustainability reporting and the GRI Standards. [online] Available at <<https://www.globalreporting.org/media/jzylu3ek/the-value-of-sustainability-reporting-and-the-gri-standards.pdf>> [last accessed 20.3.2025]

Huhtamaki, 2023. Annual Report 2023. [online] Available at <<https://www.huhtamaki.com/globalassets/global/sustainability/reports/en/2023/huhtamaki-oyj-annual-report-2023.pdf>> [last accessed 7.3.2025]

Jorgensen, S., Mjos, A., Pedersen, L. J. T., 2021. Sustainability Reporting and Approaches to Materiality: Tensions and Potential Resolutions. Sustainability Accounting, Management and Policy Journal. Vol. 13 No. 2, 2022, pp. 341-361. Emerald Publishing Limited. 2040-8021. DOI 10.1108/SAMPJ-01-2021-0009

Kacanski, S, Kabderian, DJ, & Sund, KJ (eds) 2023. Measuring Sustainability and CSR: from Reporting to Decision-Making. Springer International Publishing AG, Cham. Available from: ProQuest Ebook Central.

Kaspersen, M., Johansen, T., 2023. Stakeholder Engagement and Materiality Assessments in Sustainability Reporting. Springer International Publishing AG, Cham. Available from: ProQuest Ebook Central.

Kemira, 2023. Sustainability Report 2023. [online] Available at <<https://www.kemira.com/app/uploads/2024/02/kemira-ar-sustainability-report-2023.pdf>> [last accessed 7.3.2025]

Kesko, 2023. Kesko Annual Report 2023. [online] Available at <<https://www.kesko.fi/492829/contentassets/a0d406920fec46e2916e0d441bfc32f1/kesko-annual-report-2023.pdf>> [last accessed 7.3.2025]

Klein, B., van der Enden, E., 2021. The Fiscal Materiality Principle. Global Reporting Initiative. DOI: 10.2139/ssrn.3946441

Konecranes, 2023. Sustainability Report 2023. [online] Available at <https://investors.konecranes.com/sites/konecranes/files/Annual_report_2023/sustainability_report_2023.pdf> [last accessed 7.3.2025]

Laine, J., 2024. Double Materiality Assessment: Early Practices and Process Disclosures. Thesis of Master of Science in Economics and Business Administration. Aalto University, Helsinki, Finland.

Lipton, M., Lipton, W., Rosen, Katz, 2022. Understanding the Role of ESG and Stakeholder Governance Within the Framework of Fiduciary Duties. Harvard Law School Forum on Corporate Governance. Available at: <https://corpgov.law.harvard.edu/2022/11/29/understanding-the-role-of-esg-and-stakeholder-governance-within-the-framework-of-fiduciary-duties/>

Lakshan, A.M.I., Low, M., de Villiers, C., 2021. Challenges of, and techniques for, determination of non-financial information used by integrated report preparers. *Meditari Accountancy Research*, Vol. 30 No. 3, 2022, pp. 626-660. Emerald Publishing Limited 2049-372X. DOI: 10.1108/MEDAR-11-2020-1107

Miettinen, M., 2024. Are materiality determination practices evolving in the wake of increasing legislation on sustainability reporting? Findings from EU pharmaceutical companies' reports. *International Journal of Law and Management*, Vol. 66 No. 3, 2024, pp. 363-392. Emerald Publishing Limited 1754-243X. DOI: 10.1108/IJLMA09-2023-0221

Neisig, M. (2023). Measuring Companies Multicontextual Contribution to a Sustainable Development. In: Kacanski, S., Kabderian Dreyer, J., Sund, K.J. (eds) *Measuring Sustainability and CSR: From Reporting to Decision-Making. Ethical Economy*, vol 64. Springer, Cham. https://doi.org/10.1007/978-3-031-26959-2_2

Orion, 2023. Orion Group Sustainability Report 2023. [online] Available at < https://www.orionpharma.com/4989ff/globalassets/sustainability/documents/orion_sustainability_report_2023.pdf> [last accessed 7.3.2025]

Outokumpu, 2023. Sustainability Review. [online] Available at < <https://www.outokumpu.com/en/investors/materials/2023>> [last accessed 7.3.2025]

Overview of Sustainable Finance (no date) European Commission, Overview of Sustainable Finance. Available at: https://finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance_en

Puroila, J., Mäkelä, H., 2018. Matter of opinion: Exploring the socio-political nature of materiality disclosures in sustainability reporting. *Accounting, Auditing & Accountability Journal* Vol. 32 No. 4, 2019, pp. 1043-1072. Emerald Publishing Limited 0951-3574. DOI: 10.1108/AAAJ-11-2016-2788

Questions and answers on the adoption of European Sustainability Reporting Standards (2023) European Commission - European Commission. Available at:

https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_4043
[Accessed: 05 February 2025].

Stora Enso, 2023. Stora Enso Annual Report 2023. [online] Available at <
https://www.storaenso.com/-/media/documents/download-center/documents/annual-reports/2023/storaenso_annual_report_2023.pdf>
[last accessed 7.3.2025]

Taubken, N., Feld, T.Y., 2018. Impact measurement and the concept of materiality – new requirements and approaches for materiality assessments. UWF (2018) 26:87-100. DOI: 10.1007/s00550-018-0483-x

Tietoevry, 2023. Sustainability Report 2023. [online] Available at <
<https://ar2023.tietoevry.com/en/>> [last accessed 7.3.2025]

Torelli, R., Balluchi, F., Furlotti, K., 2020. The materiality assessment and stakeholder engagement: A content analysis of sustainability reports. Wiley, Corporate Social Responsibility and Environmental Management. DOI: 10.1002/csr.1813

Saunders, M., Lewis, P., Thornhill, A., 2023. Research Methods for Business Students. Ninth Edition. Pearson. ISBN: 978-1-292-40272-7

Svensson, E., 2024. Materiality Matters: Unravelling the Impact of Double Materiality in Swedish Corporate Sustainability. Thesis of Master in Leadership for Sustainable Development. Södertön University, Stockholm, Sweden.

UPM, 2023. Annual Report 2023. [online] Available at <
<https://www.upm.com/siteassets/asset/investors/2023/upm-annual-report-2023.pdf>> [last accessed 7.3.2025]

Valmet, 2023. GRI Supplement 2023. [online] Available at <
<https://www.valmet.com/globalassets/investors/reports--presentations/annual-reports/2023/valmet-gri-supplement-2023.pdf>> [last accessed 7.3.2025]

Whitehead, J., 2016. Prioritizing Sustainability Indicators: Using Materiality Analysis to Guide Sustainability Assessment and Strategy. Business Strategy and the Environment 26, 399–412 (2017). DOI: 10.1002/bse.1928

Wärtsilä, 2023. Annual Report 2023. [online] Available at <
https://www.wartsila.com/docs/default-source/investors/financial-materials/annual-reports/wartsila-annual-report-2023.pdf?sfvrsn=7d481943_3>
[last accessed 7.3.2025]

Appendices

Interview Guide

I. Introduction

Interviewer presentation and asking for recording the meeting permission.

Interviewee's professional background and experience on ESG matters and double materiality assessment.

J. Double materiality assessment

1. Can you describe the different phases and methods of your company's double materiality assessment?
2. What kind of experts participated in the assessment?
3. Did you use external experts in the process?
4. What background information did you collect for the double materiality assessment?
5. How did you analyse and evaluate the data you collected?
6. How did you identify and assess the positive and negative impacts of your operations on people and the environment?
7. How did you identify and assess the risks to your business? And the opportunities?
8. How did you eventually decide on the material topics during the process?
9. How did you define that something is not material?
10. What has been easy in the latest double materiality assessment process?
What has been challenging for your company?

11. What else could be done in the materiality assessment process?

a. Will you do something differently next time?

b. Will you leave something out next time? What will you definitely do again?

K. Stakeholder engagement

12. How do you identify the key stakeholders and their needs?

a. (affected stakeholders & users of sustainability statements)

13. Which stakeholders are involved in the double materiality assessment process? Why these specific ones?

14. How and at what stages do you involve stakeholders in the double materiality assessment process?

15. How do stakeholders' views affect your company's double materiality assessment?

16. How do you take into account the possible different views and expectations of different stakeholders on material topics?

At the end: Any additional thoughts or comments?