COMFORT IN COMPLEXITY

A QUALITATIVE EXPLORATION OF AUDITORS' MICRO-LEVEL PRACTICES FOR MATERIALITY ASSESSMENT IN SUSTAINABILITY ASSURANCE

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Master Thesis

Stockholm School of Economics

2024

Comfort in Complexity: A qualitative exploration of auditors' micro-level practices for materiality assessment in sustainability assurance

Abstract

This study investigates how auditors navigate the materiality assessment process in sustainability assurance engagements and the strategies they employ to operationalize materiality under the CSRD framework. Drawing on semi-structured interviews with auditors and ESG specialists from various accounting firms, the thesis applies Power's theorization of how new domains are made auditable, combined with "comfort theory" as the theoretical lens. The study builds on prior empirical research that examines how auditing professionals adapt financial auditing concepts to the sustainability domain while exploring the role of individual goals and objectives in sustainability assurance and the impact of socialization processes. Our findings reveal that auditors confront the traditional opacity of the auditing production function by identifying ambiguous auditing standards and the limitations of financial auditing knowledge as significant sources of discomfort. In response to these challenges, auditors employ distinct "comforting strategies" shaped by their individual experiences and the tacit knowledge they have accumulated over time. Moreover, instead of acting upon their suboptimal environment, auditors engage in role flexibility that transcends traditional professional boundaries, driving organizational change to align skills and capabilities with the audit process.

Keywords:

Materiality, Double-Materiality, CSRD, Comforting Strategies, Auditable Environments

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Master Thesis
Master Program in Accounting, Valuation and Financial Management
Stockholm School of Economics
Dennis Dukic and Gustaf Sandelin, 2024

Acknowledgements

We extend our heartfelt gratitude to the interviewees for their willingness to participate in this study. We appreciate and cherish the time they took from their busy schedules to engage in thoughtful discussions with us.

Our deepest thanks go to our tutor, Torkel Strömsten, Associate Professor at the Department of Accounting at the Stockholm School of Economics, for his treasured guidance and inspiring discussions throughout the research process. We also extend special appreciation to Lukas Goretzki, Professor at the Department of Accounting, for his support and the stimulating, thought-provoking exchanges we shared.

Lastly, we thank our peers at the Stockholm School of Economics for their insightful feedback during the workshops.

Stockholm, December 2024

Dennis Dukic Gustaf Sandelin

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1 Introduction

Auditing is not merely a technical practice but also an idea, embodying specific social norms and aspirations. There can be no collective investment in the practice of auditing without a shared commitment to these underlying ideals (Power, 1999). In recent decades, there has been a shift at the individual, organizational, and societal levels, marked by a growing demand for explicit checking of accounts in place of trust. This increasing reliance on auditing technologies to fulfill the programmatic intentions of regulatory programs has been further legitimized by the influence and success of major accounting firms, which have effectively promoted their expertise and knowledge in emerging fields of auditing (Rose and Miller, 1992; Power, 1994). The rising demand for external assurance beyond traditional financial audits has driven the development of specialized assurance services in diverse areas, including sports (Andon and Free, 2012), higher education (Free et al., 2009), efficiency auditing (Radcliffe, 1999), and environmental auditing (O'Dwyer, 2011). One key example of this paradigm shift is the Corporate Sustainability Reporting Directive (CSRD), which introduces the concept of double materiality, requiring organizations to assess both the impact of sustainability issues on their financial performance and the effects of their activities on the environment and society. This robust reporting standard highlights the increasing reliance on auditing and assurance technologies to drive sustainability goals and support the European Green Deal's objectives (European Union, 2023).

A growing body of academic literature has explored the emergence of sustainability assurance practices, with a particular focus on how accounting firms operationalize different areas of sustainability assurance engagements (O'Dwyer, 2011; O'Dwyer et al., 2011; Canning et al., 2019). This literature also examines the influence of underlying logics and values on practitioners' objectives, the roles they assume, and the diverse approaches they adopt in their work (Edgley et al., 2015; Channuntapipat et al., 2019; Boiral et al., 2020; Bouten et al., 2024). While prior research has shed light on the early stages of sustainability assurance practices, a significant gap remains in understanding how financial auditing techniques and concepts are adapted to new contexts and frameworks.

One financial audit concept that requires adaptation by audit practitioners in emerging audit domains is materiality. Traditionally, materiality has been defined within the context of financial reporting as the process of evaluating the significance of disclosing or omitting specific information for the users of financial statements (Brennan & Gray, 2005; Eilifsen & Messier, 2015; Elder et al., 2019). Over time, materiality has been subject to various interpretations put forth by accounting bodies. Despite this, its meaning and practical application have remained elusive with the concept consistently resisting precise codification, resulting in inherent ambiguity for practitioners expected to operationalize the concept (Power, 1996, 1997; Messier et al., 2005; Edgley, 2014).

Moreover, research indicates that this ambiguity is further heightened when the concept is applied to emerging assurance domains, particularly those related to sustainability (O'Dwyer, 2011; Edgley, 2015; Canning et al., 2019).

Prior research has identified several challenges faced by assurance providers in assessing materiality within sustainability assurance. These challenges primarily stem from the management of non-financial, qualitative data, which lacks the robust data systems and controls typical of financial auditing (O'Dwyer, 2011; Canning et al., 2019). Furthermore, limited guidance from the International Auditing and Assurance Standards Board (IAASB) exacerbates these difficulties (Moroney & Trotman, 2016). As a result, assurance providers often reach divergent conclusions, interpret standards differently, and rationalize their decisions based on varying objectives and interpretations (Edgley et al., 2015; Channuntapipat et al., 2019; Boiral et al., 2020; Bouten et al., 2024). However, much of the existing literature assumes that all auditors face the same challenges in materiality assessments. This assumption overlooks potential variations in how auditors, both within and across accounting firms, approach materiality assessments. Specifically, there is limited understanding of how concepts from financial auditing are adapted to the sustainability assurance context and how these adaptations vary among auditors and firms. With the introduction of the Corporate Sustainability Reporting Directive (CSRD), which places double materiality and the need for comparability and transparency at its core, understanding how auditors approach materiality assessments have become more critical than ever. Against this backdrop, the following research question arises:

> *How do auditors navigate challenges when assessing materiality in sustainability assurance engagements?*

To address the research question, a series of semi-structured interviews were conducted with audit professionals from various accounting firms, encompassing a range of roles and expertise, including directors and partners, junior auditors, and specialists in both financial and sustainability auditing. Additionally, ESG specialists, integral to the auditing of sustainability disclosures were included to enrich our understanding of the characteristics and dynamics of multidisciplinary teams involved in sustainability assurance engagements (O'Dwyer 2011; Edgley et al., 2015; Canning et al., 2019). By employing the comfort framework as the theoretical lens for our analysis, this study offers a distinct empirical context that advances prior research by illustrating that "auditability" is not a fixed construct, but a dynamic process shaped by the actors involved and the specific contextual challenges they encounter when operationalizing materiality.

Our study makes two key theoretical contributions. First, our study contributes to the literature examining the backstage of emerging audit practices and how new areas are made auditable (Power, 1996, 1997, 1999, 2003; Radcliffe, 1999; Free et al., 2009; O'Dwyer 2011; O'Dwyer et al., 2011; Andon & Free, 2012; Edgley et al., 2015; Canning et al 2019; Bouten et al., 2024). Our findings reveal that auditors actively confront the traditional opacity of the auditing production function, identifying ambiguous auditing

standards as key sources of discomfort. To navigate these challenges, auditors draw on unique "comforting strategies," which are shaped by their individual experience and the tacit knowledge they have accumulated over time. In addition, we demonstrate that conventional financial auditing techniques often "break down" when applied to materiality assessments in the context of sustainability. In response, auditors express a strong desire for structured frameworks that provide direction in their work while simultaneously allowing for flexibility. Moreover, rather than "acting upon" their suboptimal environment, auditors engage in role flexibility that extend beyond their traditional boundaries. This includes taking on strategic, business-oriented sales roles to influence and reshape organizational environments, thereby improving the quality of reported data and ensuring alignment with and support for the audit process.

Second, this study contributes to the growing body of interpretative research on the operationalization of materiality in sustainability contexts (O'Dwyer, 2011; Edgley et al., 2015; Canning et al., 2019). By examining the newly introduced double materiality reporting requirements under the CSRD framework alongside evolving auditing standards, the study provides critical insights into how materiality is defined, interpreted, and applied in practice by auditors. Building on prior literature exploring the influence of institutional logics and individual objectives on auditors' sensemaking, role perceptions, and "logics of action" (Edgley, 2015; Channuntapipat et al., 2019; Boiral et al., 2020; Bouten et al., 2024), this study highlights the nuanced challenges of translating financial auditing concepts, particularly materiality, into the sustainability domain. Our findings indicate that this translation is driven more by auditors' individual knowledge, education, and professional experience than by their personal values or commitments to sustainability. Personal values and commitments are frequently constrained by organizational socialization processes, firm-specific guidelines, and the interpretative authority of senior auditors overseeing engagements. Consequently, we contend that auditors face distinct sources of discomfort, requiring them to develop tailored comforting strategies to navigate these challenges, all while working within the confines of their professional expertise, firm policies, and senior auditors' interpretations of what constitutes sufficient and acceptable audit work in materiality assessments.

The remainder of this study is structured as follows: Section 2 offers an overview of the CSRD framework and examines the historical challenges organizations have encountered in reporting sustainability information. This is followed by a review of the literature on auditing new domains and an exploration of materiality and sustainability. Section 3 outlines the methodology, including research design and data analysis. Section 4 presents the empirical analysis using the comfort framework and synthesizes the data. Section 5 discusses the findings in relation to previous literature, and Section 6 concludes with a summary, practical implications, limitations, and suggestions for future research.

2 Theoretical Development

2.1 CSRD and Sustainability Reporting

The European Green deal, launched by the European Union in 2019, represents a transformative strategy aimed at achieving climate neutrality across Europe by 2050. It seeks to address environmental degradation, climate change, and foster a sustainable economy, with an intermediary pledge of reducing greenhouse gas emissions by 55% by 2030, compared to 1990 levels. The plan involves vital sectors such as transport, energy, agriculture, and industry, with a focus on promoting greener, more sustainable practices. The Green Deal's core objectives encompass achieving climate neutrality, decoupling economic growth from resource consumption, protecting biodiversity, and fostering a circular economy. An additional cornerstone of the initiative is ensuring a socially just transition, which addresses disparities across industries and regions most impacted by these changes. A vital implementation framework is the "Fit for 55" package, which updates legislative measures to meet the emission targets, and the "Just Transition Mechanism", providing technical and financial support to the most affected regions (European Commission, 2024).

The European Green Deal's integrated approach not only seeks to address the climate crisis but also promotes sustainable economic growth, fostering long-term competitiveness across the Union. Through innovation and the adoption of greener practices, the initiative intends to position the EU as a global leader in sustainable development and climate action. Thus, this extensive plan reflects EU's commitment to tackling environmental challenges while simultaneously ensuring social fairness and economics resilience (European Commission, 2024).

Passed in December 2022, as part of the European Green Deal, the Corporate Sustainability Reporting Directive (CSRD) requires over 50,000 companies to include a sustainability report within their financial statements. The directive aims to improve the quality, transparency and comparability of sustainability data to meet stakeholder needs and support the European Union's transition to a sustainable economy (European Parliament & Council of the European Union, 2022). Unlike previous sustainability frameworks that focus primarily on specific areas like climate, the CSRD involves a comprehensive range of environmental, social, and governance (ESG) issues (EFRAG, 2022).

A key innovation in the directive is the introduction of *double materiality*. This requires companies to report not only on how sustainability factors, such as extreme weather events and government policies, impact their business (financial materiality, or outside-in impacts), but also how their operations affect society and the environment (impact materiality, or inside-out impacts), including aspects like job creation and emissions. This

dual approach clarifies ambiguities and strengthens decision-useful information for stakeholders, thus acting as the foundation of the company's sustainability strategy (EFRAG, 2022).

However, sustainability reporting involves significant challenges, particularly in aligning organizational and stakeholder interests through non-financial disclosures. Dumay et al., (2015) discuss the difficulty of achieving "material legitimacy", which the authors define as the form of legitimacy that enables organizations to blend what is important to the organization (strategic legitimacy) with the primary concerns of its major stakeholders (institutional legitimacy). Thus, companies must balance the expectations of stakeholders while maintaining their legitimacy. The complexity surfaces from blending financial and non-financial concerns, as sustainability issues may oppose traditional business measures. This balancing act often leads to tensions in effectively communicating sustainability performance and ensuring the information disclosed is both relevant and credible.

Furthermore, in their article, Demaria and Rigot (2021) critically assess the alignment of firms with the TCFD'S climate-related disclosure recommendations. They identify substantial compliance issues, exposing transparency gaps, specifically in risk assessment and the financial impacts of climate change. The study reveals that, although companies often present general environmental information, many lack significant reporting on specific climate-related risks and dependencies. This deficit illustrates the challenges in achieving meaningful, standardized environmental reporting within frameworks like the TCFD, raising concerns about the effectiveness and reliability of current sustainability disclosures.

In addition, Di Marco et al., (2023) argue that contemporary "marketized" sustainable finance conceptually rely on the production, dissemination and consumption of finalized ESG risk information. Their study scrutinizes this "risk transparency premise" in the context of the TCFD's climate risk reporting framework. Findings reveal that while compliance levels saw moderate improvement during 2016 to 2019, an extensive gap remains between the TCFD's disclosure requirements and the information that organizations report. Moreover, the authors detected three interrelated impediments that contributed to the disconnect between climate-risk policy requirements and firms' actual disclosure practices. These impediments encompass: (1) *Impediments related to information systems* – many organizations lack the necessary information systems to effectively collect, manage, and administer TCDF-related data; (2) *Impediments related to interprofessional collaboration* – generating reliable sustainability data requires coordinated efforts among accountants, engineers, environmental specialists, risk officers, and senior management, often posing operational challenges; and (3) *Impediments related to transparency* – firms are expected to disclose and analyze the financial impacts of climate-related risks and opportunities, including those with potentially negative implications, yet many fall short of meeting this requirement. Together, these impediments may obstruct the effective implementation of sustainability

reporting withing organizations, ultimately restricting the production and dissemination of fundamental climate risk information.

Consequently, these limitations pose significant challenges for audit professionals in verifying sustainability data. Inconsistencies within organizations and data insufficiencies undermine the credibility and accuracy of sustainability reporting, complicating the audit process (O'Dwyer 2011). Auditors must navigate incomplete and inconsistent data sources while ensuring compliance with rigorous disclosure frameworks, particularly under the newly implemented CSRD requirements. To understand how auditors address these challenges, it is essential to examine how they have tackled similar issues in the past. By relying on foundational principles and strategies developed over time, the auditing profession has demonstrated an ability to overcome barriers and adapt to evolving demands, enabling auditors to perform their work effectively and expand into emerging domains of auditing.

2.2 Making Things Auditable

Power (1996) theorizes that professionals within the assurance domain make new areas auditable by simultaneously creating a stable and legitimate knowledge base for audit practice and an auditable environment to which this knowledge is applied. This co-production of stable knowledge and auditable environments constitutes a form of "fact building", wherein emergent audit technologies comprising formal and informal practices are gradually accepted as common sense. Over time, these newly constructed audit environments become conceptually distinct from the audit procedures themselves (Power, 1999). Consequently, once the facts are established the focus shifts from the environment itself to the underlying procedures, systems, and practices. However, this process of "fact-building" is inherently contested, as it demands the creation of institutionally legitimate practices that are recognized and accepted by regulators, markets, and legal authorities (Power, 1997, 2003). This challenge compels professionals to develop tailored strategies to establish and sustain legitimacy (O'Dwyer et al., 2011).

The knowledge base underlying financial audit processes has been criticized for being obscure given the inscrutability of the assurance production function and the challenges of defining what constitutes a high-quality audit. This lack of clarity is argued to contribute to the "expectations gap" - the difference between public expectations of auditing (detection of fraud) and what auditors assert they deliver (opinion on the fairness and accuracy of financial statements). By perpetuating this expectations gap, professionals can invoke their own judgment in determining reasonable practices (Power, 1996; Fischer, 1996). This enables external demands to be managed more efficiently, while the processes and knowledge base of auditing remains inscrutable (Power, 1999). Several elements form what Power (1996) describes as a robust "system of knowledge," whose institutional resilience shields auditing from systemic doubt. The capacity of this system to replicate and adapt its core principles across new contexts has enabled auditing

to expand into new domains. However, before auditing can expand into new domains its knowledge must be negotiated and rendered as acceptable (Power, 2003). Certain procedures and techniques are either accepted or rejected as reliable knowledge, influenced by formal codification at the public level or by informal standards of acceptable practice. This phenomenon is particularly evident in instances where practitioner consensus is not inherently established and where there is "interpretive flexibility" (Pinch & Bijker, 1987, p.30). In the absence of objectively superior techniques, professionals can convene to collectively "take a view," thereby establishing practices that are institutionally acceptable and defensible (Power, 1996). Over time, this flexibility in defining acceptable practices may gain official recognition from standard-setting bodies, thereby shaping the evolution of audit knowledge. Consequently, audit knowledge is more concerned with the perception of efficacy among relevant social groups than with the actual resolution of specific problems (Power, 1999, 2003).

Moreover, the development of auditability and audit knowledge is a process of trial and error, where facts and claims of expertise regarding new practices are produced and legitimized (Power, 1996, 1997). During this process, audit practitioners often face self-doubt and anxiety as they work to assemble audit technologies designed to foster a shared sense of comfort (Pentland 1993; Fischer, 1996). While comfort can be supported by established financial auditing techniques, the limitations of these methods quickly become evident when applied to auditing activities that are less quantifiable. In situations of uncertainty, tacit knowledge, emotional and cognitive processes, coupled with interactive experimentation play a crucial role in the process of resolution and fact building (Pentland, 1993; Radcliff 1999; O'Dwyer 2011).

Power (1997) observes that the development of new audit technologies often necessitates the inclusion of practitioners from diverse fields to form multidisciplinary audit teams. The boundaries of which skills are inside or outside the audit process are often ambiguous, and new areas are made auditable through the creation of "chains of reliance" that enable specific forms of verification. In fields where multidisciplinary is the norm, and multiple expert groups assert the relevance of their knowledge, no single group can claim exclusive authority. Instead, the question becomes who is institutionally recognized as legitimate to "orchestrate" the audit of new domains (Power, 1999). In the pursuit of exclusive control over these emerging areas, professionals may undermine other experts and underestimate the complexity of coordinating across disciplines. This can result in the erroneous assumption that technical practices will remain unchanged when working with other fields, potentially causing misjudgments about team functionality and effectiveness (Andon et al., 2015).

Power (1996) contends that the auditing system actively *creates* the external organizational environment in which it operates, whereas auditing knowledge is *negotiated*. While it is difficult to assert that organizations are literally created by the audit process, significant "auditable sub-organizations" are developed to meet audit

requirements. Controls, measurement systems, and associated documentation rarely pre-exist the audit process (O'Dwyer 2011). Instead, this environment must be tailored to the audit technologies in use, as audit procedures depend on conditions that allow them to be perceived as successful (Radcliffe, 1999). Evidence indicates that some systems are designed primarily for the purpose of being audited, rather than contributing to meaningful improvements in core activities. Consequently, audits may reshape organizations to facilitate the effective implementation of their processes, often without delivering the value they purport to add (Power, 1999).

The audit technologies that emerge from the "auditability process" are eventually codified and formalized to provide practitioners with a framework to guide their work (Pentland, 1993; MacLullich, 2003). This formalization introduces order to the often subjective and negotiated audit techniques, which might obscure practitioners' tacit knowledge and intuition. Power (2003) notes a persistent tension between standardized structures and professional judgment, as predefined audit procedures seldom offer precise guidance for improving efficiency. Nevertheless, the technical formalization enhances the perceived credibility and legitimacy of auditing practices. However, these formalizations, which Power (1995) characterizes as a "strategy of closure," can conflict with practitioners' individual values that prioritize context-specific, localized, and tacit knowledge, as well as the demands of institutional and organizational settings (MacLullich, 2003). Considerable effort is therefore needed to persuade practitioners of the effectiveness of technical innovations before they can be successfully implemented at the micro level (Fischer, 1996).

The current dominant audit style which emphasizes clear and measurable performance within a strong system of control, implicitly allows professionals to determine the objective of what counts as effectiveness in situations where outcomes are ambiguous or controversial and hence must be replaced with output measures to fit the dominant evaluation process of "auditability" (Power, 1999). The audit objectives assigned to new domains can thus influence the nature of technologies developed, and the availability of appropriate technologies also influence the objectives assigned to audit with these objectives often being defined in ways aimed at aligning them with existing professional competencies (Radcliff, 1999). Additionally, the limitations of traditional auditing skillsets require auditors to reinvent both their expertise and technologies to claim legitimacy and make new areas auditable (Power, 2003). This challenge extends to other professionals within accounting firms, where norms and expectations are shaped by accounting values (Pentland, 1993; Andon et al., 2015). Consequently, adapting existing audit technologies, restructuring team compositions, and addressing external environmental factors are essential for professionals seeking to navigate and establish their expertise in emerging auditing domains. The CSRD framework, particularly its emphasis on double materiality assessment, offers a valuable opportunity to explore these dynamics in greater depth.

2.3 Materiality

Materiality is a key accounting principle central to the audit process, traditionally associated with the acceptable level of error in financial statements and the significance of information for decision-making (Brennan & Gray, 2005). While most research has focused on its role in financial auditing (Messier et al., 2005; Eilifsen & Messier, 2015), its application in sustainability reporting has received less attention, despite the concept's growing importance in that field (Edgley et al., 2015; Moroney & Trotman 2016; Canning et al., 2019). There is broad consensus that organizations should identify and disclose material sustainability issues to provide stakeholders with decision-useful information. However, varying approaches to defining and applying materiality continue to create challenges in practice (Edgley, 2014; Dumay et al., 2015).

In the field of auditing, materiality plays a vital role in both the planning and execution of audit procedures. It is essential for evaluating whether financial statements provide a true and fair view in compliance with regulatory standards such as IFRS or GAAP (Elder et al., 2019). The materiality threshold established not only dictates the scope of audit testing but also serves as a reference point for identifying material misstatements that could influence stakeholder decision-making (Brennan & Gray, 2005). Furthermore, it guides the evaluation of whether any detected misstatements warrant correction (Messier et al., 2005). While management initially determines materiality thresholds, auditors are responsible for assessing the appropriateness of these thresholds. When auditors disagree with management's interpretation of materiality, discussions may ensue. In such situations auditors might suggest adjustments if they perceive management's approach as too permissive or insufficiently reflective of the needs of financial statement users (Edgley, 2015; Elder et al., 2019).

Although materiality has long been a cornerstone of financial auditing, its application has raised several concerns highlighted by scholars examining its operationalization. Firstly, materiality is inherently relative, shaped by the specific nature and context of each item. There is no universal framework or set of guidelines applicable to all situations and materiality thresholds are rarely disclosed (Brennan & Gray, 2005). This relativity suggests that materiality decisions cannot be made through a purely mechanical process. Instead, they demand extensive experience, nuanced professional judgment, and the ability to draw upon diverse expertise with a high degree of flexibility (Power, 1997). Secondly, the concept of materiality suffers from ambiguity and reliance on vague standards which service to enhance the potential for manipulation of materiality judgments and questionable assurance and reporting procedures (Edgley, 2014; Dumay et al., 2015). According to Power (1999), this lack of precision and evasion of codification in auditing guidance has enabled the auditing profession to instill public confidence in the quality of financial reporting and the soundness of professional judgment. Thirdly, the lack of clarity in the conceptualization of materiality raises questions about the consistency of its application among assurance providers. Various qualitative factors such

as firm size and organizational culture have been shown to influence how materiality is applied in practice (Carpenter & Dirsmith, 1992; Carpenter et al., 1994; Blokdijk et al., 2003;). Moreover, individual motivations, objectives, and interpretations contribute to a heterogeneous application of materiality thresholds (Edgley, 2015). As a result, materiality decisions are deeply influenced by the specific context in which they are made and the professionals applying the concept (Canning et al., 2019). Collectively, these observations suggest that application and judgments related to materiality frequently extend beyond established professional guidelines (Edgley, 2014). The highlighted challenges and variations in materiality assessment are particularly significant as we delve into how the concept of materiality has been adapted for sustainability assurance, a practice that remains considerably less developed compared to financial auditing.

2.4 Materiality and Sustainability

As sustainability reporting has evolved, the concept of materiality has expanded beyond its traditional origins in financial accounting to encompass sustainable business practices and assurance. This evolution has prompted professionals to reevaluate the application of materiality within the context of sustainability reporting (Canning et al., 2019). The increasing adoption of materiality is largely driven by growing concerns about the quality and consistency of sustainability disclosures (Edgley et al., 2015). Historically, organizations have had considerable discretion in deciding what to report. As a result, sustainability reports often include excessive or self-serving information which can obscure the issues that are truly important to stakeholders (Moroney & Trotman, 2016).

Early guidance on sustainability reporting has drawn on materiality concepts from financial auditing; however, the application of materiality in sustainability reporting remains significantly less defined. O'Dwyer and Owen (2005, 2007) conducted a content analysis of sustainability reports, revealing that assurance providers often overlook materiality from a stakeholder perspective, resulting in considerable inconsistencies across assurance reports generated by different practitioners. These discrepancies can be partially attributed to the lack of standardized guidance within existing reporting frameworks, which impedes professionals' ability to effectively evaluate material sustainability issues. Moroney and Trotman (2016) provide a comparative analysis of the guidance on materiality assessment as outlined in ISA 320, which applies to financial information, and ISAE 3000, which governs the assurance of non-financial information, including sustainability reports and ESG disclosures. They observe that sustainability assurance guidelines encompass broader, less clearly defined user groups with more complex information needs. Moreover, there is variability in the scope of engagements and levels of assurance, which can range from reasonable to limited. While financial audits employ specific quantitative thresholds to establish materiality, sustainability reporting lacks explicit quantitative benchmarks (Edgley, 2015). Instead, it underscores the significance of identifying issues that may impact stakeholders' decision-making

processes (Moroney & Trotman, 2016). Consequently, auditors must increasingly depend on qualitative factors, professional judgment, and practical experience to ascertain material items (Canning et al., 2019). In the absence of clear, standardized guidance, practitioners must leverage their tacit knowledge to perform materiality assessments in sustainability assurance engagements, thereby rendering new domains auditable (Power, 1996; O'Dwyer, 2011).

Given the complexities associated with determining and assessing material sustainability information, organizations and professionals must adopt more sophisticated methodologies that transcend conventional approaches (Canning et al., 2019). To enhance the consistency, relevance, and comparability of non-financial disclosures, the European Commission introduced the European Sustainability Reporting Standards (ESRS) in 2023. Developed by the European Financial Reporting Advisory Group (EFRAG), these standards provide supplementary guidance within the framework of the Corporate Sustainability Reporting Directive (CSRD). The CSRD and ESRS establish a more rigorous and comprehensive reporting structure than previous frameworks, requiring organizations to address a broader range of sustainability topics and engage a wider array of stakeholders. Importantly, sustainability data must be integrated with financial reporting and will be subject to the same level of scrutiny and assurance as financial data. The directive mandates that sustainability reports be audited to ensure transparency and accountability (European Union, 2023).

Central to the CSRD and ESRS is the concept of "double materiality", encompassing both impact materiality and financial materiality. To assess double materiality, entities must identify information related to material impacts, risks, and opportunities (IROs) linked to their business activities and relevant sustainability matters. When evaluating the materiality of each IRO, organizations should utilize stakeholder input, qualitative information, and quantitative data. These standards establish criteria for organizations to follow when developing internal IRO scoring models and determining materiality thresholds, which may include both quantitative and qualitative indicators. In assessing each IRO, entities should consider factors such as severity, scale, scope, likelihood, and magnitude. Furthermore, organizations must ensure transparency by providing assurors with detailed documentation of management decisions and outcomes for each IRO, including an explanation of how thresholds were determined and where judgment was applied (Deloitte, 2024).

Moroney and Trotman (2016) demonstrate that the level of detail and clarity in materiality standards significantly impacts auditors' assessments of materiality. In addition, liability concerns influence auditor behavior; when standards are vague, audit efforts tend to diminish because the perceived risk of negligence is lower. Given that the CSRD framework enhances guidance and reporting requirements, auditors are likely to be more concerned about justifying their materiality assessments, determination of thresholds, and decisions to waive audit discrepancies. However, to our knowledge, no prior research has

examined how auditors navigate the new reporting landscape introduced by the CSRD framework. Previous studies have largely concentrated on how accountants and sustainability consultants develop assurance services within the voluntary context of sustainability reporting. These studies have explored how auditing techniques, standards, and reporting frameworks are adapted to meet the demands of evolving domains. This body of research provides valuable insights as the assurance field transitions into a new era, characterized by mandatory sustainability reporting and evolving requirements for auditors and organizations to report and verify material information under the CSRD framework (European Union, 2023).

2.5 Expanding Auditing Practices into Sustainability

In a case study on sustainability assurance services at two Big 4 firms, O'Dwyer (2011) examined the challenges assurance providers face in evaluating the relevance and completeness of sustainability reports. Drawing on Power's theorization of making new domains auditable, the study highlights that the lack of clear standards for assessing completeness caused significant discomfort among assurance providers. This uncertainty was further exacerbated by the weak connection between social and environmental data, leaving assurance professionals in a state of ambiguity (Power, 1999). Additionally, inadequate data collection and control systems among clients increased the need for audit teams to establish auditable environments to perform their work. Due to these weaknesses in clients' information systems, many professionals noted that engagements often included an advisory component, focusing on improving processes, data collection, and control systems to enable the audit. Furthermore, assessments of completeness were highly politicized, which threatened the independence of assurance providers, as some clients sought to influence the audit scope and limit access to certain areas of inquiry (O'Dwyer 2011).

Despite initial resistance from accountants to adopt sustainability-driven approaches to completeness assessment, the accounting firms in O'Dwyer 's (2011) study recognized the necessity of integrating both perspectives, leading to the formation of multidisciplinary teams (Power, 1999; Canning et al., 2019). This collaboration, however, revealed tensions, as sustainability experts criticized traditional accounting methods for being too rigid to adequately address the complexities of sustainability data. They advocated for a more flexible, contextually informed approach grounded in accumulated knowledge. Nonetheless, they acknowledged the value of accounting techniques in enhancing the effectiveness of completeness assessments. To maintain consistency, internal frameworks for completeness assessment were introduced, incorporating financial auditing practices focused on documentation, testing, and defensible conclusions, while integrating sustainability elements. Furthermore, external stakeholder panels were proposed, promoting a hybrid approach that combined expert insight with rigorous accounting methodologies. While sustainability experts gained influence

through the new framework, financial auditors maintained leadership under the new framework, which hindered substantial shifts from the dominant audit style rooted in financial auditing. As one senior manager in the study observed, “The new framework provided an enhanced appearance of objectivity, without offering clear solutions to key issues like reporting completeness” (O'Dwyer, 2011).

In contrast to O'Dwyer's (2011) study, Canning et al. (2019) found no significant tensions between accountants and non-accountants. The authors suggest that strong socialization and cohesion within the firm and assurance teams prevented competing approaches to materiality assessments. While traditional financial auditing methodologies provided a solid foundation, the unique circumstances of the company allowed financial auditing and sustainability practices to evolve together. Collaboration between financial auditors and sustainability experts fostered a shared understanding of materiality, with each profession contributing unique insights. Unlike O'Dwyer's (2011) findings, where non-accountants were marginalized, Canning et al. (2019) showed that non-accountants were seen as integral members of the assurance team, providing specialized knowledge crucial for interpreting sustainability data and assessing materiality.

An additional body of research exploring the expansion of assurance practices into the sustainability domain examines how actors conceptualize materiality and the institutional logics that underpin their methodologies. These studies suggest that sustainability assurance providers pursue a variety of objectives, often diverging between accounting professionals and sustainability experts, primarily due to the absence of universally accepted standards within the field (Boiral et al., 2020). Edgley (2015) found that auditors in accounting firms adhere to a professional logic grounded in traditional audit methodologies, which emphasize verification, risk mitigation, and a systems-based approach to materiality assessments. In contrast, non-accounting assurance providers critique this approach as overly rigid and narrow, arguing that it fails to address broader environmental concerns. They instead adopt a stakeholder-driven logic rooted in responsible business management, which not only focuses on identifying material issues but also advocates for recommending improvements to clients' practices and policies. These objectives can also vary across different accounting firms (Channuntapipat et al., 2019) and even among practitioners within the same accounting firm (O'Dwyer, 2011). The literature identifies three overarching objectives pursued by assurance professionals: verifying data accuracy, adding value to audited organizations, and enhancing accountability to stakeholders through credible reporting (Edgley, 2015; Channuntapipat et al., 2019; Boiral et al., 2020). Consequently, assurance providers both individually and collaboratively develop distinct "logics of action" that reflect their unique interpretations, objectives, and methodologies for conducting sustainability assessments (Bouten et al., 2024).

The absence of a shared understanding of sustainability assurance objectives and desired outcomes complicates the materiality assessment process, as assurance providers often

prioritize different aspects or adopt diverse approaches to evaluating material issues (O'Dwyer, 2011; Canning et al., 2019). These inconsistencies can lead to "discomfort" during assessments, particularly when providers must operate outside their established frameworks or address significant ambiguities. In response, assurance providers play a critical role in shaping their practices by developing "comforting" strategies, such as refining methodologies or redefining priorities, to navigate the complexities inherent in sustainability assessments (Carrington & Catasús, 2007; Bouten et al., 2024). The heterogeneity of objectives and approaches among providers is thus central to understanding both the discomfort experienced and the strategies employed during materiality assessments in sustainability assurance (Edgley, 2015; Channuntapipat et al., 2019; Bouten et al., 2024). Nonetheless, the factors driving this discomfort, the ways it differs among assurance providers, and its implications for the design of comforting strategies remain underexplored in the literature.

This tension recalls Michael Power's observation, made more than 25 years ago, that "the environmental auditing field has 'grown outward' to attach itself to regulatory programs and aspiration […] environmental auditing is being reshaped and reoriented as part of efforts to internalize regulatory compliance while simultaneously stimulating internal cultural change within organizations" (Power, 1999). Today, the auditing profession is undergoing one of its most significant transformations with the introduction of the CSRD framework and the mandatory assurance of sustainability information. However, whether Power's assertion that "comfort rather than discomfort must be the norm" remains valid in the context of double materiality assessments is an empirical issue that has not yet been addressed in the literature. Therefore, it is essential to further explore the challenges auditors face in assessing material sustainability information and the implications these challenges have on the development of their comforting strategies and materiality assessment. The next section delves into the literature on comforting strategies and introduces our theoretical lens, which frames the exploration of these challenges and the strategies employed by auditors to navigate them.

2.6 Method Theory

Pentland (1993) adopts an interpretive approach to examining auditor behavior, highlighting the social and contextual dimensions of audit work that constitute "audit rituals." In this view, accounting serves as a tool for making sense of the world, where accountants construct representations of a corporation's fiscal health, while assurance providers validate these representations to reassure the public of their accuracy, exemplifying the core principles of agency theory (Eisenhardt, 1993). Rituals, as defined by Collins (1987), are collective practices performed by professionals to maintain their social standing. The analysis of these rituals can be deconstructed into various layers, each offering professionals' different interpretations and meanings related to their work. Materiality is a key component of one such layer, which Pentland (1993) refers to as

"purification rituals." The concept of materiality reflects auditors' judgments about what constitutes a “symbolically clean set of data”. Social cohesion within audit teams, along with their shared identities and values, plays a significant role in shaping how materiality thresholds are conceptualized and established. Thus, the determination of materiality is not the outcome of a single individual's decision, but rather the collective judgment of multiple actors, influenced by social norms, team dynamics, and expectations about the application of materiality (Edgley, 2014; Pentland, 1993). The evidence presented by Pentland (1993) suggests that micro-interactions within the audit engagement team generate comfort, which in turn makes the macro-order of capital markets and other financial institutions possible. When the stability of capital markets and financial institutions relies on the production of comfort through micro-level interactions, it becomes essential to understand how comfort is created at this level. To address this, it is important to define what constitutes individual comfort and explore how perceptions of comfort evolve in response to changing circumstances.

Consequently, this study utilizes Carrington and Catasús' (2007) comfort framework to analyze how audit professionals navigate the uncertainties surrounding materiality in sustainability assurance engagements, particularly the concept of double materiality. The framework enables the analysis of individual actors' perceptions of comfort and discomfort at the micro-level. It builds on the foundational work of Kolcaba and Kolcaba (1991) and Pentland (1993). Kolcaba and Kolcaba (1991) identified six meanings of comfort, from which they derived three technical senses of comfort relevant to nursing theory, forming the basis of their framework. Kolcaba et al. (2004, p. 93) further emphasize that "comfort is a positive outcome that differs from, and is more than, the mere absence of discomfort," emphasizing that comfort is viewed as a multidimensional concept rather than a binary state. In contrast, Pentland (1993) theorizes auditing as a ritual that generates comfort through micro-level interactions. Despite the differences between nursing and auditing, the concept of providing relief from discomfort serves as a point of convergence for both fields.

The three technical senses of comfort, as defined by Kolcaba and Kolcaba (1991), form the initial classification scheme for the framework developed by Carrington and Catasús (2007). *The relief sense of comfort* focuses on the acts that relieve discomfort. By addressing discomforts, a non-acceptable state can be transformed into an acceptable one. *The state sense of comfort* describes all potential outcomes of comfort, acknowledging that comfort does not require the complete absence of discomfort. Instead, it is formed by the conditions that foster comfort. Thus, at any given moment, both comfort and discomfort can coexist, with the state of comfort representing a balance or inventory of these experiences. *The renewal sense of comfort* is defined by a revitalized understanding of comfort. It involves gaining novel perceptions of acts that relieve discomfort and novel perceptions of the state of discomfort and comfort (Kolcaba & Kolcaba, 1991).

However, there are essential differences between nursing and auditing practices regarding the production of comfort. In nursing, the patient's perception determines what level of discomfort or comfort is acceptable. In auditing, on the other hand, it is the auditor who determines when the numbers have moved from an untrustworthy state into a state they find comfortable. Hence, the auditors' quest is to judge whether they are comfortable with the numbers or not. Unlike nursing and other practices, auditing has a clear decision point: the auditor either signs off or does not. As a result, Carrington and Catasús (2007) remolds Kolcaba and Kolcaba's (1991) comfort framework to make it adaptable to an audit environment.

In auditing, the relief sense of comfort refers to the acts that shift the auditor from a state of discomfort to one of comfort, where the state of discomfort is portrayed as a situation in which an individual faces an overwhelming amount of unease. In other words, comfort as relief captures the steps auditors take to alleviate discomfort and reach a comfortable state. This perspective emphasizes the practical aspects of auditing, specifically focusing on identifying the acts that are obligatory to perform, such as assurance coverage, evidence collection and the application of financial audit methods (Carrington & Catasús, 2007).

Comfort as state refers to the point when the relevant actors are convinced and it's time to close the books and issue an audit opinion. It emphasizes that sufficient effort has been made to provide an opinion, even without reaching one hundred percent certainty. Thus, this view acknowledges that the auditing rationale accepts some level of discomfort, which is apparent in the prior literature (Pentland, 1993). Comfort as a state is about reaching a point where auditors feel sufficiently comfortable with the numbers to issue a (positive) opinion (Carrington & Catasús, 2007).

In the audit environment, the renewal of comfort refers to new definitions of what is an acceptable audit. Thus, it involves how new discomforts are added to old ones and how old ones are eradicated. Hence, what an auditor is comfortable with in one context or during one period may change over time. Put differently, "comfort as renewal concerns the change in the definition that determines the state of comfort" (Carrington & Catasús, 2007, p. 39). Furthermore, to clarify the concept, the authors employ the metaphor of a bar that auditors must clear to reach a state of comfort. The renewal of comfort adjusts the height of this bar, thereby altering the level of comfort required (Carrington & Catasús, 2007, p. 39). According to Carrington and Catasús (2007, p. 50), the "most prominent actors for changing the level where comfort is achieved come from outside the audit firm", such as regulations, laws, and societal expectations.

Carrington and Catasús (2007) thus conclude that producing comfort requires actively identifying and addressing discomforts, much like any successful program relies on the presence of an opposing force or "anti-program" (Carrington & Catasús, 2007, p. 54). This cycle, searching for discomforts, applying methods to transform them into a state of comfort, and then continuously shifting perspectives on both, reflects acts of creativity.

In fact, they postulate that auditing, rather than being viewed as a ritual, can be seen as an imaginative act of constructing discomforts and comforts. Seen in this light, the role of auditing is not merely to conclude the past financial year, but to serve as a starting point for the next endeavor.

In summary, Carrington and Catasús' (2007) comfort framework provides a strategic theoretical lens for analyzing how audit professionals handle the uncertainties of materiality in sustainability engagements, particularly double materiality, by emphasizing on the acts that transform discomfort into professional judgement. Double materiality, which demands auditors to consider both financial and sustainability factors, fundamentally increases complexity and discomfort. The framework's three dimensions - relief, state and renewal, allow for a nuanced understanding of how auditors navigate this uncertainty at the micro-level. By addressing discomforts (relief), reaching an acceptable threshold for assurance (state), and adapting to shifting audit expectations and standards (renewal), the framework mirrors the evolving and fluid nature of sustainability audits. Thus, this makes it particularly relevant for understanding how audit professionals balance traditional financial materiality with broader social and environmental concerns, emphasizing the interpretative and iterative nature of audit work in this emerging "audit space".

3 Method

3.1 Research Design

This study seeks to investigate how auditors navigate challenges when assessing materiality in sustainability assurance engagements, and how they address these challenges to ensure the frameworks' auditability. The qualitative approach supports the paper's objective to reveal and offer in-depth insights into the micro-level activities and processes undertaken by professionals. Previous research such as Pentland (1993), O'Dwyer (2011), Edgley et al. (2015), Canning et al. (2019), and Bouten et al. (2024), underscores the important role of micro-level activities in shaping auditability. To interpret these activities, the study applies Carrington and Catasús' (2007) comfort framework, offering a theoretical lens to understand how audit professionals deal with the challenges and discomforts associated with implementing the novel materiality requirements in the CSRD context. Thus, the analysis is grounded in data collected through the qualitative research methodology employed in the study.

Building on this, we adopted an interpretative social science methodology, as outlined by Neumann (2000), which assumes that individuals understand and perceive the world differently, resulting in multiple interpretations and beliefs of key concepts such as materiality (Lincoln & Guba, 1985). This approach is particularly well-suited for our research, as the CSRD's introduction of double materiality – demanding the assessment of both financial and sustainability impacts – introduces significant complexities. By emphasizing how audit professionals respond and interpret these challenges, we can capture the subjective judgements and professional reasoning that shape their adaptation to evolving regulatory demands. Furthermore, Neumann (2000) asserts that an interpretative methodology is especially fitting for analyzing complex, evolving situations where individual perceptions shape practices. Ultimately, this methodology enables a thorough examination of the diverse strategies that audit professionals apply to meet the CSRD's requirements, making it an appropriate choice for addressing our research question.

The research design aims to incorporate the perspectives of various professional groups, both directly and indirectly involved in shaping auditability, to gain a deeper understanding of the nuanced processes and inherent complexities surrounding the creation of auditability. Audit professionals are defined as practitioners from well-established accounting firms, working in financial auditing, sustainability auditing, or a combination of both, as well as climate specialists or consultants. This selection is deliberate, as these practitioners will be responsible for auditing the CSRD framework in Sweden. Financial auditors bring expertise in materiality assessments and financial reporting, vital knowledge as the CSRD integrates financial and non-financial disclosures. Sustainability auditors specialize in ESG metrics and address the

complexities of auditing qualitative data, while those with expertise in both fields offer valuable insights into harmonizing audit methodologies across financial and non-financial reporting. Specialists are included due to the CSRD's emphasis on climate, social, and governance-related disclosures, requiring their expertise in various subjects. Furthermore, in Sweden, the CSRD directive will be primarily audited by larger, well-established accounting firms, operating under the oversight of Revisorsinspektionen (the Swedish Inspectorate of Auditors) and Finansinspektionen (the Financial Supervisory Authority). Consequently, selecting these firms for inclusion in the study was both a logical and clear choice.

3.2 Data Collection

Following Rowley's (2012) work, we conducted a series of semi-structured interviews with audit professionals, including financial auditors, sustainability auditors, and those with expertise in both fields, and climate specialists. This approach enabled a structured yet flexible conversation, using pre-prepared questions to guide the discussions while enabling in-depth exploration of emerging topics through ad-hoc follow-up questions (Fontana & Frey, 2005; Bryman & Bell, 2015). To ensure comparability, all interviews were designed similarly, with a tailored interview guide for each practitioner group (see Appendix B). Slight alterations were made to address the unique perspectives of each group, ensuring that the questions captured the most relevant insights. The majority of interviews were conducted virtually via Microsoft Teams, while three were held in-person. In some cases, the interview data was enriched with documents provided by participants, and additional clarifications or follow-up questions were addressed via email. The chosen method enabled reliable, comparable responses while allowing interviews to evolve organically, uncovering new perspectives and previously unexplored aspects of the topic. A detailed overview of the data collection process is presented in Appendix A. The interviews opened with a brief introduction by the authors, followed by an overview of the study. While enough information was provided to give the interviewees a general understanding of the topic, we intentionally withheld certain information to prevent them from knowing too much about the interview in advance, ensuring their responses remained authentic and unfiltered.

At the start of each interview, permission was requested to record the discussion. It was explained that the recording would exclusively be used for transcription purposes, and that both the interviewee's identity and the firm's name would be anonymized in the research paper. Our commitment to maintaining the confidentiality of the interviewee's perspective was emphasized through a formal consent form, which was also presented and reviewed at the commencement of each interview. In cases where the interviewee opted not to be recorded, handwritten notes were taken, and any necessary follow-up questions were addressed via email. The 18 interviews ranged in duration from 45 to 90 minutes, with an average of 58 minutes. When scheduling interviews, participants were

given the choice between in-person interviews at their place of work or virtual interviews via Microsoft Teams. This flexibility was provided to prioritize the interviewee's comfort and to accommodate their preferences. All recorded interviews were transcribed using either the built-in AI transcriber in Microsoft Teams or the transcription tool in Microsoft Word. The recordings and transcripts facilitated further analysis of the empirical material. Contact with all accounting firms was established through Partners, Directors and Managers who were professionally known to other researchers within the authors' network. At the end of each interview, the interviewee was asked to recommend other professionals within their field who might be interested in participating in the study, thereby expanding the pool of potential interviewees.

Throughout all interviews, both authors actively participated, with each responsible for specific areas to ensure nuanced and reliable interpretations (Bryman & Bell, 2015). One author concentrated on general questions and remarks about the CSRD framework and other relevant sustainability assurance engagements, while the other examined more specific areas related to future implications and key themes in the analysis. This arrangement allowed one author to focus primarily on asking questions and follow-up inquiries, while the other took detailed notes and made additional observations or drawing connections to existing literature. Following Eisenhardt and Bourgeois (1988) and Eisenhardt (1989), this dual approach enabled us to generate complementary insights, enhancing the likelihood of revealing findings. By alternating between observing and leading the interviews, we frequently asked follow-up questions, which Bryman and Bell (2015) emphasize as essential for developing new theoretical concepts.

The inclusion of senior-level interviewees from the accounting firms, as presented in Appendix A, was fundamental in addressing the research question on materiality assessments in sustainability assurance engagements. The participation of partners and senior directors facilitated an in-depth examination of the complexities associated with auditability. These experienced professionals contributed profound insights due to their strategic roles and comprehensive understanding of the challenges in financial and sustainability auditing. Their input allowed for focused discussions on complex issues enabling the effective exploration and theorization of sustainability assurance implications. This approach not only supplemented the study's findings but also ensured that the discussions were grounded in the practical realities and future prospects of auditability, thereby increasing the research's rigor and depth. Furthermore, the inclusion of interviewees from lower hierarchical levels and with fewer years of experience enriched the analysis by adding an additional layer of depth. This diversity provided a more nuanced understanding of how auditability is constructed at the micro-level, illustrating how interpretations and practices evolve across different career stages. It also emphasized the influence of individual knowledge, education, and professional experience on the operationalization of materiality in sustainability assurance engagements.

3.3 Data Analysis

This study utilizes the qualitative data analysis framework proposed by Huberman and Miles (1994), supplemented by insights from O'Dwyer (2004). The analysis involves three interconnected stages: data reduction, data display and data interpretation. Empirical data gathered through interviews were analyzed iteratively, requiring the continuous creation and recreation of theoretical and empirical notions. Although the stages overlap in practice, they are presented individually for clarity.

The analysis began with data reduction, which entailed re-reading notes, transcripts and supplementary documents to identify core themes. An intuitive coding scheme was developed for each core theme, consistent with Huberman & Miles (1994). As new themes emerged, the interview guides were adjusted to enable deeper investigation of the empirical data. For instance, as the double materiality assessment under the CSRD directive emerged inductively as a critical source of discomfort and a key differentiator from other sustainability frameworks, the interview guides were further refined to focus more closely on this issue.

In the data display stage, the core themes were organized into a matrix (see Appendix C), with interviews listed vertically and themes horizontally. The visual representation allowed for the identification of relationships and patterns within the data. As the analysis progressed, the matrix was updated iteratively to include both theoretical insights and empirical data, particularly those related to comfort and the development of auditability.

In the final stage of data interpretation, or "conclusion drawing and verification" as presented by Huberman and Miles (1994), comfort theory emerged as the central theoretical lens. The concept of comfort, especially in relation to the construction of auditability, surfaced both implicitly and explicitly in the empirical findings. The use of method theory as a theoretical lens allowed us to gain a nuanced understanding of the empirical observations and to explain the ensuing theoretical implications for the domain of auditability. In doing so, the study incorporates both domain and method theory (Lukka & Vinnari, 2014). The interpretation process, leading to the conclusions, involved an iterative, back-and-forth analysis of the empirical data, condensed matrices (see Appendix C) and relevant academic literature.

Furthermore, Lukka and Modell (2010) explore the importance of emic and etic perspectives in interpretive accounting research, highlighting how these perspectives contribute to achieving a comprehensive understanding of organizational practices. In this study, we incorporate these perspectives to strengthen our empirical analysis. The emic perspective, as described by the authors, captures the "insider" viewpoint, focusing on the meanings, interpretations and practices held by those within organizations. This approach is critical in interpretive research, as it uncovers the subjective reality of participants, allowing the researchers to gain insights that are deeply embedded within the specific cultural and organizational context. In contrast, the etic perspective signifies

the “outsider” viewpoint, in which researchers apply external theories or frameworks to the phenomena within the organizational setting. This approach provides analytical distance, aiding researchers to critically evaluate practices from a broader, theoretically grounded perspective. The etic perspective thus complements the emic view by helping to identify structures or patterns that might be less visible to insiders, ensuring that the findings are not only contextually rich but also theoretically rigorous.

In addition, Lukka and Modell (2010) emphasize the need to balance emic and etic perspectives in interpretive research, as each offers unique insights that, together, increase the robustness of validation. The emic approach ensures sensitivity to the particular organizational or cultural setting, while the etic perspective facilitates generalization and critical analysis. By integrating both perspectives, researchers can achieve a nuanced and validated understanding that is both analytically sound and contextually grounded, meeting the standards for rigor in interpretive accounting research.

3.4 Data Quality

When assessing business and management research, Bryman and bell (2015) identify three fundamental criteria: reliability, replicability and validity. However, they also recognize that quantitative and qualitative data may require different evaluative approaches. In this context, Lincoln and Guba (1985) argue that qualitative research should be evaluated not only on validity and reliability but also on additional dimensions. They emphasize two key parameters: trustworthiness and authenticity. Trustworthiness itself contains four distinct aspects: credibility, transferability, dependability and conformability.

To ensure that our empirical findings accurately reflect the intended explanations of the subject matter, we frequently incorporated direct quotes from the interviews. This approach helped maintain authenticity by ensuring that the empirical material and subsequent analysis were not exclusively shaped by the author’s interpretations. It also enhanced the trustworthiness of the study, particularly in terms of conformability. Additionally, to increase credibility and minimize bias in the data, we gathered insights from a diverse range of individuals within different accounting firms, representing different hierarchical levels and practitioner teams. To provide a comprehensive and balanced view of the data, we incorporated concrete examples that underscore the research topic from multiple perspectives, ensuring that our findings are not selectively biased. Moreover, we made a deliberate effort to present contrasting viewpoints, which Lukka and Modell (2010) emphasize as critical for achieving credibility. This approach contributes to a nuanced and trustworthy portrayal of the subject, enhancing the overall credibility of the study.

However, we acknowledge the inherent challenges of qualitative research, specifically the potential for researcher bias. While our interpretative approach seeks to mitigate this

through rigorous methodologies and the dual involvement of authors in cross-validating interpretations, the subjective character of qualitative analysis remains a constraint. This requires careful examination of how our theoretical orientations and perspectives may influence data interpretation, emphasizing the importance of reflexivity during the analysis process.

4 Empirical Analysis

4.1 Relief Sense

In contrast to Carrington and Catasús (2007), who posit that auditors must actively seek out discomforts to develop effective strategies for providing comfort, the auditing process in the sustainability domain appears to operate differently. Our findings suggest that uncertainties related to materiality assessments often emerge organically during the execution phase, rather than being driven by deliberate efforts by auditors to identify them (O'Dwyer 2011; Edgley et al., 2015; Canning et al., 2019; Bouten et al., 2024). Accordingly, the following sections are organized thematically to examine the challenges and strategies auditors employ in evaluating material sustainability information, with the aim of enhancing comprehension of this complex subject.

4.1.1 Double-Materiality

Our discussions with auditors revealed that materiality in sustainability auditing is a complex and multifaceted concept that intersects with various areas of the audit process. A critical starting point in this assessment is the evaluation of the client's double materiality assessment process, which serves as the foundation for identifying information deemed material and warranting closer scrutiny by the auditor. Several auditors noted that this process is extensive, with more detailed requirements outlined in the CSRD framework and ESRS reporting standards compared to previous sustainability frameworks. Of particular concern is the observation that "*companies approach the double materiality assessment very differently, despite the fact that the method for determining what is material should be the same between organizations […] the process is quite ambiguous, determining what is considered material is to some extent subjective*" (Auditor, 7). While the CSRD framework establishes reporting requirements for organizations, numerous auditors highlighted its pivotal role in shaping their materiality assessments, both in relation to auditing standards and their professional responsibilities in the audit process. They emphasized that materiality in sustainability auditing encompasses more than merely identifying high-risk areas of misstatement; it begins with the selection of contextually relevant topics and information for reporting, tailored to the specific organization. This selection process must be established prior to determining thresholds and conducting testing. A significant distinction between financial and sustainability reporting was noted in this context:

> "In financial audits, the required line items for balance sheets, income statements, and cash flow statements are clearly defined. In contrast, sustainability audits necessitate the determination of relevant issues from a broad spectrum of environmental, social, and governance factors, which are often not clearly specified and can vary between organization." (Auditor 2)

Consequently, the interviews revealed that the two domains of auditing have distinct starting points, with sustainability auditing requiring a thorough process to identify relevant topics before high-risk areas can be determined and thresholds established. Several auditors highlighted that this process can be particularly challenging from both their own and the organizations' perspectives, as it necessitates the involvement of stakeholders and requires consideration of both inside-out and outside-in viewpoints during the assessment. Most auditors identified the outside-in perspective as the most challenging aspect of this determination:

> "We can measure how an organization's CO2 emissions impact the environment; however, we can only assert that CO2 taxes will affect an organization financially if the tax rates and timelines are not set. Without concrete numbers any attempt to quantify this impact on the organization amounts to mere estimations, making it difficult to accurately assess the associated risks for the organization" (Auditor 4)

In addition to the uncertainties surrounding future estimates, several auditors expressed concerns regarding the level of detail and breadth of expertise required for compliance with the CSRD framework. While they recognized that the reporting standards are well-structured and provide a solid foundation for organizations to identify and report on material information, many auditors deemed the requirements excessively comprehensive and intricate. Auditor 2 even indicated that a "*rapid change in course*" may be necessary. As a result, the new framework positions auditors in a challenging landscape that necessitates a high level of proficiency in areas such as environmental and social issues - expertise that many auditors may not possess. Interviews revealed that evaluating the relevance of topics and making determinations about their materiality for organizations often exceed the traditional knowledge base of auditors.

> We need expertise that extends beyond GHG calculations; it also encompasses human rights issues where adherence to OECD guidelines, International Labor Organization regulations, and United Nations frameworks is essential. There are numerous international regulations and standards that are linked to CSRD framework which I am not familiar with and cannot adequately address […] many competencies will need to be integrated to ensure that the reporting and topics are fact-based. (Auditor 3)

In our inquiry into how auditors navigate these complexities, the notion of the expectations gap emerged as a recurring theme. Auditors acknowledged that it is reasonable for stakeholders to scrutinize the capacity of individuals with backgrounds in business administration and predominantly financial auditing to effectively assess and evaluate material sustainability issues. However, they clarified that their role concerning the double-materiality assessment does not involve conducting an independent assessment to be compared with that of the organization. Auditor 7 articulated that "*It would be economically and logistically unfeasible for auditors to perform their own*

double-materiality assessment of the organization." Instead, their obligation to stakeholders encompasses:

> "To possess a deep understanding of the client organization and its business model in accordance with ISA 315 [...] We assert that the process for identifying and determining material information has been followed in accordance with the CSRD and ESRS standards [...] the company bears ultimate responsibility for this process, which we are then tasked with reviewing [...] Therefore, it is not necessary to be an environmental engineer to assess whether the company has conducted a proper analysis of material risks, provided they have adhered to the guidelines outlined in the framework". (Auditor 7)

The auditors emphasized the importance of transparency in organizations' materiality assessment processes. They highlighted that while these processes are rigorous and complex, the legal requirement for organizations to disclose their procedures including documentation of models, scoring criteria, and threshold determinations, provides auditors with confidence. Several auditors noted that during the voluntary phase of sustainability reporting, obtaining such documentation was often difficult, making it challenging to assess how organizations identified material issues. With the introduction of the CSRD framework, these "*black box*" (Auditor 6) practices, where material topic determinations remain unclear, will no longer be permissible. However, while auditors are not expected to be ESG experts to evaluate whether an organization has selected appropriate material topics for inclusion in the double materiality assessment, several auditors noted that assessing the accuracy of the output from these assessments requires a certain level of ESG expertise, which they are not always comfortable with.

Although the CSRD framework establishes rigorous guidelines for organizations in reporting material information, thereby streamlining the auditors' assessment of relevant topics, concerns persist regarding variations in practices across industries and the subsequent analysis of the reported data. Moreover, the interaction between reporting guidelines and auditing standards introduces challenges, requiring auditors to exercise professional judgment in novel areas not encountered during the voluntary phase of sustainability reporting.

4.1.2 Judgment, Structure and Guidelines

The auditors described a peculiar relationship between the reporting standards outlined in the CSRD framework and the corresponding auditing standards applied in materiality assessments and sustainability data. While the reporting standards provide a comprehensive and structured framework for organizations to identify and report material sustainability issues, the auditing standards remain ambiguous, leaving several key questions unresolved:

> "Everyone seeks answers or expects us to provide solutions; however, we often lack the experience that we desire. This poses a significant challenge particularly as many are looking for precise guidance

> on how to proceed […] RevR19 provides guidance on the review of ESRS reports and outlines key areas for consideration. However, its broad language relies heavily on professional judgment, making it challenging to precisely determine what is considered material on a company-specific basis. (Auditor 1)

The auditors emphasized that, unlike previous sustainability reporting frameworks with voluntary guidelines, the introduction of legal mandates has significantly heightened expectations regarding the scope and rigor of materiality assessments. Interviewees underscored the critical importance of adhering to auditing standards as clients and stakeholders increasingly expect verified reports to align with regulatory requirements. Additionally, they highlighted the challenge of demonstrating the audit process and clearly linking it to an established auditing methodology and regulatory standards. Ambiguities within the auditing standards further complicate the verification process, raising concerns in the evolving landscape of regulated sustainability reporting.

> "I have observed that this issue is becoming increasingly significant; in the past, the ability to demonstrate the audit methodology was often taken for granted. People did not give it much thought, but now, as complexities have increased, its importance has grown even more […] we need to be cautious about lawsuits and make sure that the assessment aligns with established standards." (Auditor 8)

Moreover, while auditors aim to ensure their work aligns with established guidelines, there is tension surrounding the appropriate balance between structure and flexibility in materiality assessments. This balance is complex and varies significantly based on individual preferences. Some auditors express a strong preference for practical examples, interpretations, and structured guidelines that provide clear instructions for conducting materiality assessments, which are currently insufficient. In contrast, opponents advocate for a more flexible approach, arguing against rigid standards. They contend that it is unreasonable to expect fully defined instructions for sustainability materiality assessments, stating that "*we don't have that either in financial audit*" (Auditor 9). Another aspect of this discussion pertains to the practicality of having structured standards that prohibit flexibility. Many auditors argue that it is rarely feasible to apply a standard uniformly across all companies. A degree of adjustment and discretion is necessary to effectively conduct audits. Additionally, from a risk and regulatory perspective, excessive structure may not be desirable. As one auditor noted:

> "We certainly need to obtain more answers; however, determining the appropriate level of detail presents challenges. If we conduct an audit and the Swedish Inspectorate of Auditors reviews our work and states, "You have not followed the procedures as outlined", we are left with no room for interpretation. While we desire extensive information due to uncertainty and a wish to avoid mistakes, we also seek the flexibility to navigate the process and establish best practices. These two objectives are in conflict" (Auditor 10)

While opposing views on structure and judgment persist, audit firms and auditors are aware of these challenges and have adopted various tangible and cognitive strategies in response. A key approach is the development of internal company guidance that clarifies the framework for structuring materiality assessments. These guidelines build on established auditing standards but present them in a more accessible format, addressing commonly perceived ambiguities. This provides auditors with clear guidance, enabling them to navigate complex assessments with greater confidence:

> "I am fortunate to work for a large global firm that has developed comprehensive training packages to aid in interpretation and provides all the necessary tools. Without these resources and support, navigating the standards would be incredibly challenging, requiring one to read everything from top to bottom […] some of the standards are highly technical difficult to grasp" (Auditor 5)

In addition to internal company guidelines, most auditors reported collaborating with internal technical specialists who possess deep expertise in the materiality assessment process. These specialists offer valuable insights that enhance auditors' technical proficiency and support their evaluation of sustainability-related information. Large accounting firms leverage their international presence to foster cross-border collaboration in addressing complex issues. Through their global networks, these firms facilitate discussions on emerging challenges and share insights on how organizations have previously navigated similar issues, enabling auditors to adopt best practices and make more informed judgments:

> We are a global firm that fosters extensive Nordic collaboration in the sustainability sector through various forums. We engage in both European and global partnerships, ensuring that questions can always be addressed. Recently, we have begun establishing more formal channels to tackle complex sustainability reporting and auditing issues […] This process mirrors our approach for challenging IFRS questions and financial audits, although it still requires further development" (Auditor 6)

Several auditors also mentioned that In Sweden, the Association of Authorized Public Accountants offers a collaborative forum for accounting firms, allowing auditors to address challenges, pose inquiries, and promote a harmonized approach to auditing practices. This environment fosters alignment in methodologies and interpretations, ensuring consistency and reliability across audit engagements. Collectively, these components equip auditors with the necessary tools, collaborative platforms, and cognitive representations to navigate the uncertainties of auditing standards, enhancing their capacity to deliver assessments and instilling confidence in their own professional capabilities. Although audit firms have developed innovative strategies to navigate the complexities of ambiguous auditing standards, these efforts do not fully resolve the challenges auditors face when assessing data outputs of relevant topics and determining whether the information is materially misstated. As several interviewees noted, while financial audit methodologies provide a useful starting point, they are inadequate for addressing all aspects of the challenges auditors encounter in sustainability reporting.

4.1.3 Compatibility and Limitations of Financial Auditing Techniques

Auditors explained that they derive confidence from applying financial auditing methodologies in sustainability assurance engagements. They emphasized that key procedures, such as substantive testing, analytical review, risk assessment, and verification of evidence, are largely consistent across both financial and sustainability audits. As one auditor noted:

> "We continuously assess audit risks; that's all we do, constantly evaluating risks. The only difference with sustainability is that we need to incorporate sustainability risks and determine whether the company has made the correct assessments in the context of its business and reported accurate data". (Auditor 11)

Furthermore, several auditors emphasized that they and their firms have been engaged in sustainability assurance for many years, highlighting that the Corporate Sustainability Reporting Directive framework did not emerge in isolation:

> "Our firm has engaged in sustainability assurance for over 15 years. The introduction of a statutory requirement for the review of sustainability data does not alter the fact that we have voluntarily audited this type of data for many years. This is a significant consideration. As a firm, we have developed robust methodologies for conducting these audits, we are not starting from scratch". (Auditor 4)

However, as the researchers delved deeper into the perspectives of auditors, several areas of discomfort emerged, revealing a more complex reality than the initial confidence suggested. In particular, issues related to data completeness and threshold determinations were highlighted as significant challenges, prompting critical reflections on the limitations of conventional auditing approaches in the sustainability context. The auditors explained that in financial auditing, all figures are expressed in monetary terms, facilitating straightforward comparisons to earnings or assets. This enables them to establish a percentage threshold to determine acceptable levels of deviation that will not impact the decision making of users. Additionally, the issue of data completeness is less ambiguous in financial auditing as the figures rely on well-established systems, refined over decades, with the debit and credit methodology thoroughly integrated into financial reporting processes.

In contrast, the primary challenges in auditing ESG data center around the double-materiality assessment and the identification of key topics that require substantiated data. Auditors stressed that evaluating the completeness of ESG data and establishing appropriate materiality thresholds are particularly complex tasks. They noted significant variability in data collection processes and control systems among clients, with some organizations possessing far more advanced systems than others. Moreover, several auditors underscored the critical need for robust data collection systems that can demonstrate the source of the data, ensure continuous updates, and maintain full traceability. However, several clients are currently maintaining a significant portion of

their data in Excel spreadsheet, a practice that, from an auditor's perspective, poses serious challenges. As one auditor explained:

> "I see significant challenges overall, both in Sweden and across Europe. There is no platform or system provider that has developed a comprehensive data collection and control system for sustainability […] Excel is still being used extensively. Excel is one of the most dangerous tools, as it can be manipulated in any way, at any time, without proper traceability or completeness. For example, entering 1 instead of 10 can have enormous consequences on the reported information." (Auditor 8)

Furthermore, there is growing apprehension that organizations lagging in their data collection systems may overlook or manipulate material topics in their double materiality assessments. This concern arises from the understanding that these organizations may struggle to collect the necessary data to substantiate their conclusions. However, as auditor 6 noted, under the CSRD framework, "*a lack of data cannot be used as an excuse for failing to report*". If information is deemed material, the organization is obligated to present it, whether quantitatively or qualitatively. Striking the right balance between encouraging clients to provide more nuanced reporting and maintaining their motivation was seen as crucial. Auditors emphasized that, while it remains an ongoing challenge they consistently strive to manage, achieving this balance will alleviate several discomforts moving forward.

Auditors largely agreed on strategies for establishing materiality thresholds to ensure organizations report sufficiently accurate data to support users' decision-making processes. However, while acknowledging the challenges posed by qualitative information, auditors expressed variation in their views on the difficulties of assessing qualitative data and determining whether it is materially misstated. Qualitative data was seen as particularly challenging to evaluate, as it is difficult to challenge and explain how conclusions are drawn, making the process of justifying their work in the audit report more complex. As one auditor explained:

> "The CSRD introduces text as a key performance indicator, which can be encapsulated in a single sentence. What does this entail? Is it permissible to have ten incorrect statements, leading to a significant deficiency, or is one incorrect statement sufficient? […] This determination will rely on judgment and experience. […] When reviewing such reports, my experience allows me to identify serious errors. However, I cannot simply tell the Swedish Inspectorate of Auditors, "We based our conclusion on my experience." We must continually substantiate our work to mitigate potential litigation risks." (Auditor 3)

Additionally, several auditors highlighted the ongoing issue of organizations using vague language and marketing rhetoric in their sustainability reports, particularly by front-loading their annual reports with excessive, non-material information. This has often resulted in prolonged and challenging discussions with clients regarding the relevance of such content. These debates have been time-consuming and difficult, as there were no clear prohibitions against including irrelevant information, making it challenging for

auditors to focus on material issues. One auditor noted that the new ESRS requirements are a valuable tool in addressing this issue, as they prevent organizations from including irrelevant or overly lengthy information in management commentary. This streamlines the process and ensures that critical insights are not obscured, making the audit more efficient and valuable by reducing the time spent on scrutinizing and removing non-material information.

Overall, auditors acknowledged that materiality in sustainability is not a one-size-fits-all concept. As one auditor explained, "*Aggregating information and applying a single threshold is not feasible*" (Auditor 1). Instead, they advocated for an approach that involves setting specific thresholds, supplemented by tailored scoring criteria for each topic under consideration. A uniform threshold cannot be applied due to the technical complexities and the multifaceted nature of materiality assessments, which encompass a wide range of topics and stakeholders. Each stakeholder group has its own tolerance level for what constitutes a material error. While auditors recognized that adapting materiality assessments across various topics would increase their workload, they also agreed that this approach provides a more objective and reliable means of evaluating data compared to the traditional percentages used in financial auditing. One commonly used approach, when precise quantification is not possible, involves the use of scales. As one auditor explained:

> "Everything can be quantified and expressed as small or large, acceptable or unacceptable. […] By using scales, we can assess the impact and risk of issues in terms of their likelihood, magnitude, and significance to stakeholders […] But I don't think we will ever end up in a situation where we can say that 5% of the information is materially wrong. Relying too heavily on percentages becomes problematic in cases where the outcome is clearly right or wrong. A death, for example, should either be right or wrong, right? You can't accept that as a deviation based on percentages". (Auditor 2)

When employing scales, the interviewees emphasized that an effective approach to assessing the accuracy and integrity of information involves complementing qualitative data with quantifiable metrics that accurately reflect the subject matter. For example, Auditor 11 highlighted that in evaluating community impact, positive statements can be assessed by analyzing measurable metrics, such as the number of volunteer hours contributed or the amount of money donated, alongside the qualitative narratives provided by the organization regarding its community initiatives. Conversely, assessing the negative impact on biodiversity can involve estimating the chemicals used by the company and evaluating their approximate effects on water quality and local wildlife populations. This integrated approach was perceived as enhancing the auditors' evaluations of the reporting organizations' claims regarding risks, impacts, and opportunities, which are often presented qualitatively. Although the auditors noted that this adapted approach to establishing thresholds offered a more reliable foundation for assessing the risk of material misstatements, it became evident that the implementation of this methodology could not be solely undertaken by auditors. Rather, it requires the

involvement of highly skilled specialists who can provide critical support to the auditing process and the evaluation of data.

4.1.4 Leveraging ESG Specialists

Auditors acknowledged that their existing expertise is insufficient to fully grasp the complexities of ESG-related risks and impacts. This knowledge gap highlights the critical importance of collaboration with specialists who possess the requisite expertise to ensure a comprehensive evaluation of ESG factors. Several auditors expressed discomfort in working with sustainability information, citing a lack of formal education and extensive training in subjects requiring specialized technical knowledge. Furthermore, they indicated that their limited understanding could lead to hesitancy in posing questions or challenging the validity of clients' reported information. Auditor 13 noted that many of his colleagues, including himself, are highly skilled in financial auditing, having accumulated years of experience in this domain. They are considered knowledgeable and professional when addressing client inquiries or challenging their work. However, in the sustainability context, these auditors often avoid engaging in difficult discussions with clients due to concerns about their unfamiliarity with the subject matter and the fear of appearing unprofessional. As a result, they tend to defer such inquiries to internal specialists who can effectively address client concerns and elucidate the necessary changes in their practices. One auditor explained:

> "I'm somewhat hesitant to discuss the details of our climate work because I don't feel comfortable bringing them up with clients. Many authorized auditors feel a sense of fear; they worry about appearing unprofessional. However, gratitude exists for having specialists available to provide support when clients pose questions or present information that I am not able to assess with full confidence" (Auditor 13)

Moreover, many auditors noted that when assessing industry-specific information, such as regulatory aspects of chemical licensing, or complex emissions calculations, they often lack the specialized expertise for effective analysis. While collaboration with external experts is familiar, auditors face challenges when relying on individuals outside the traditional audit team. This dependence requires trust in external experts who do not share the same level of risk and responsibility as the auditor, who is ultimately accountable for signing the report. One auditor explained:

> "When gathering information about steel, cement and concrete, it's essential to first understand the full value chain. This means consulting with industry experts who can walk me through the process from start to finish. There's a significant reliance on expert opinions, and while I aim to cross-check insights by speaking with multiple sources, it's not always possible to verify every detail. That's just the nature of auditing complex industries." (Auditor 12)

A significant observation is that audit firms demonstrate varying levels of in-house expertise, encompassing professionals such as lawyers, biologists, engineers, and other

specialists, which cannot be solely attributed to the firm's size. While some auditors underscore the importance of possessing expert capabilities internally for logistical efficiency and to enhance reliability and trust, others are more inclined to utilize external consultants when evaluating ESG information. Nonetheless, all auditors acknowledged that their workforce and team compositions are in a continual state of evolution, with new skills being integrated regularly to address the challenges of auditing ESG-Information. Moreover, certain firms have developed explicit strategies for executing their sustainability audits, particularly concerning the division of labor. All auditors concurred that the collaboration between ESG experts and auditors within the same team is advantageous. They further emphasized that such collaboration is crucial for effectively conveying the appropriate message to clients:

> Dividing the work between experts and auditors, and then trying to integrate it, would not be effective. We must collaborate on various issues and share knowledge with one another […] We considered establishing a division between teams or relying solely on specialized sustainability auditors for these audits. However […] separating financial and sustainability aspects would convey the wrong message to clients, complicate our work and lead to coordination challenges". (Auditor 4)

When asked about the coordination of multidisciplinary teams, the signing auditors responsible for overseeing and managing the audits reported no significant challenges. To assess whether this perspective was shared by the specialists involved, the researchers sought input from these experts regarding their roles in the materiality assessment and auditing process. Specialist 2, who has participated in numerous sustainability audits, elaborated as follows:

> "There is trust in our specialized expertise. When we have an audit client, it is my responsibility to review the climate aspect, and I make that assessment independently. I engage directly with the client, without the involvement of auditors; we truly follow our own path and have full authority in that area. It has never happened that an auditor has come to me and asked why I raised concerns about a climate-related issue with the client. That is simply not the case. They lack that expertise and rely on us experts because it is a niche field which they are not entirely comfortable". (Specialist 2)

However, as noted by Specialist 3, there are instances in which the auditor responsible for coordination has not adequately identified the necessary experts for the engagement. This oversight can place experts in a challenging position, necessitating the evaluation of a substantial amount of ESG information within a constrained timeframe or potentially leaving them without the requisite knowledge to conduct the work reliably. The experts emphasized that during the audit planning phase, auditors must identify the appropriate specialists to engage. This identification process can be particularly challenging if auditors are either inexperienced in this process or confronted with a new client whose business model significantly differs from previous engagements with which they are familiar. As one specialist explained, the identification of experts requires a certain base level of knowledge and willingness to learn things outside of the auditor's comfort zone:

> "Many of the auditors I speak with express, 'I don't know anything about this area; you can do this.' Several auditors instinctively hesitate to engage with this type of information. […] We have initiated numerous training programs aimed at enhancing their knowledge and understanding because they need to learn these things. There remains a barrier that the auditors must overcome to fully grasp this type of information and data […] it will make things easier and more efficient in the long run" (Specialist 4)

Although auditors may lack the specialized knowledge required to assess material sustainability information, and ESG experts play an essential role in identifying and evaluating such information, interviews with both groups consistently revealed a consensus: auditors should retain responsibility for planning, task allocation, and the execution of sustainability engagements. The rationale for this view is that specialists often lack the necessary skills to plan, structure, and document procedures to meet regulatory requirements. Furthermore, specialists are frequently unfamiliar with the complexities of the auditor-client relationship and the internal systems integral to audit processes. ESG specialists are therefore technically marginalized within the auditing process, as their involvement is confined to specialized areas outside the auditors' scope, rather than being fully integrated into the broader sustainability work. While they maintain autonomy in their fields, their contributions do not overlap with tasks typically performed by auditors.

4.1.5 Client Relationship

In examining how individual client characteristics influence the materiality assessment process, the researchers found that, from the auditors' perspectives, both structural aspects of their environments, such as data management and control systems, and qualitative, client-specific factors significantly impact an auditor's ability to conduct materiality assessments. Auditor 10 observed that clients exhibit a broad spectrum of maturity levels and attitudes toward sustainability, categorizing them as either "*compliers*" or "*innovators*". Clients positioned as "innovators" actively facilitate the audit process, often displaying a commitment to sustainability that enhances the quality and depth of the auditor's evaluations. In contrast, clients adopting a 'bare minimum' approach to compliance pose challenges due to their lack of both engagement and the necessary infrastructure to accurately identify and report material information. These clients often deprioritize sustainability reporting, underfunding budgets and staffing, which compromises the quality of materiality assessments and adherence to established reporting standards.

This variation in client commitment is often driven by leadership priorities according to the auditors. Auditor 9 emphasized the critical role of leadership in establishing an organizational tone that supports sustainability efforts. In certain instances, resistance from CEOs to sustainability initiatives can stifle the resources and commitment necessary for effective implementation, leading to the deprioritization of sustainability reporting.

The primary barrier within these organizations is their limited recognition of the business value associated with sustainability initiatives. Furthermore, for organizations where sustainability efforts were starting to gain traction, rising inflation and increasing operational costs in recent years have eroded these commitments, further diminishing the priority given to sustainability in their strategic agendas. Considering the introduction of the European Sustainability Reporting Standards (ESRS), several auditors expressed deep concern regarding their clients' current state:

> "We struggle to get clients to understand that this takes time. It's a massive project that cannot be solved by just sending in a consultant - no way! It doesn't work like that! [...] I see a great risk that many companies believe they can do a quick fix [...] they unfortunately do not grasp the magnitude of these reporting requirements […] the right functions of the organization and boards are not involved" (Auditor 3)

Discomfort arising from clients' physical and qualitative environments is further complicated by auditors' need to balance the promotion of organizational improvements with the imperative of maintaining professional independence. Several auditors emphasized that they are explicitly prohibited from directly implementing systems or prescribing specific skills for their clients. Moreover, in the rapidly evolving landscape of sustainability reporting, many auditors expressed reluctance to provide recommendations, as they are uncertain about which systems will prove most effective or what specific skills will be required by companies in the future. While auditors frequently receive inquiries from clients seeking guidance on process implementation and system selection, they exercise considerable caution in offering advice. As Auditor 12 remarked: *"If we recommend something and it doesn't work out, they will come back and say, ´But you told us´".*

Given that auditors rarely advise clients on specific organizational improvements and that many clients currently lack a comprehensive operational framework, the authors sought to understand how organizations address these challenges. It appears, from the perspective of the auditors, that organizations often engage third-party consultants or rely on the advisory services of accounting firms not providing auditing services for an organization, to assist with system improvements, documentation, and control systems. While auditors generally view initiatives aimed at enhancing the organizational environment and improving the reporting of material information positively, these efforts are not without drawbacks. Auditors noted that while the advisory work performed by other accounting firms tends to align reasonably well with their own practices, third-party consultants often struggle to structure their work effectively and provide data in a manner that suits auditors' methodologies. As one auditor explained:

> "Most of the tools they implement rely on manually filling in various fields, and then you get a fancy dashboard with a bar chart. [...] However, we prefer a database dump with all the information so that we can conduct our analysis and use our own tools. [...] There are some systems from which it is

> impossible to obtain meaningful extracts, or you might only get a summary without the underlying logic that supports the database's format" (Auditor 10)

According to the auditors, one of the most effective strategies for addressing challenges in sustainability reporting is to educate clients on the importance of viewing sustainability reporting not merely as a compliance obligation, but as a valuable resource for driving business improvements. One auditor observed that when clients begin to recognize the potential of data to enhance product quality and reduce costs, there is a notable shift in the organizational attitude toward resource allocation for reporting initiatives. Consequently, the key lies in articulating the business case for sustainability to clients. Once they acknowledge the inherent benefits, clients are likely to independently seek ways to enhance the reliability and accuracy of their data and control systems, as well as to invest in acquiring the necessary expertise. However, this approach requires auditors to step outside their traditional roles and adopt a more sales-oriented and business strategy mindset, a shift that some find challenging, as it conflicts with the objectivity and independence central to their financial auditing experience.

4.2 State Sense of Comfort

In our analysis of the "relief sense of comfort," we identified that auditors encounter a diverse array of discomforts related to the materiality assessment process. Although it may be challenging to devise strategies that completely eliminate these discomforts, we observed several practical strategies that auditors use to increase their comfort level. These strategies aid auditors in performing materiality assessments more effectively and enhancing the overall audit process. Notably, while the areas of discomfort are generally consistent across auditors and firms, our findings reveal variation in how these discomforts are experienced and managed between different auditors. The discomforts perceived by the interviewees are not universal; rather, they are context-dependent and influenced by the specific characteristics of the auditors and their respective firms. Several key factors were identified from the interviewees' perspectives that shape the discomfort experienced by auditors and inform their strategies for achieving comfort, as well as the actors involved in defining what constitutes comfort, as discussed below.

The auditors interviewed represent a broad spectrum of experience, from junior auditors to partners. This variation in experience levels significantly influences their perspectives on challenges related to materiality assessments. While all auditors noted that existing standards for materiality assessments lack specific guidance and detailed implementation directives, partners generally expressed less concern over this ambiguity. Drawing on their extensive experience, partners frequently rely on professional judgment to align with auditing standards, viewing the flexibility of these standards as beneficial. Conversely, less experienced auditors reported a stronger need for structured guidance, often emphasizing the lack of practical examples as a notable challenge. To address these gaps, they tend to rely on internal guidelines to substantiate their work and conform to firm-

specific interpretations of auditing standards. Additionally, junior auditors, who typically handle operational tasks such as testing, reviewing documentation, and interviewing company representatives, encounter greater practical challenges in meeting materiality assessment standards compared to partners, who oversee audit teams and manage task allocation. Thus, variations in responsibilities may also help explain the differences in perspectives on the perceived challenges with materiality assessment in sustainability assurance.

Moreover, the auditors interviewed also represent a diverse range of professional backgrounds within auditing. Some have dedicated most of their careers to sustainability auditing, while others are transitioning from financial auditing to sustainability assurance. Additionally, some auditors adopt a hybrid approach, integrating both financial and sustainability auditing practices on an ongoing basis. This diversity leads to notable differences in the application and perceived effectiveness of traditional financial auditing techniques within the context of sustainability assurance and materiality assessment. When it comes to qualitative data and threshold determination, auditors with a financial auditing background tend to prioritize quantification as a critical tool for identifying potential misstatements that could influence user decision-making. They argue that quantification ensures objectivity and reliability in assessments. However, the lack of clear thresholds in sustainability metrics can be challenging for these auditors, who are accustomed to quantifiable financial metrics. The inability to assign numerical values or percentages to specific line items or qualitative factors was viewed as a source of frustration. In contrast, auditors with a background solely in sustainability assurance are more at ease with assessing qualitative information, as long as there is adequate documentation, transparency, and credible sources to support the organization's claims. As Auditor 2 noted, extensive experience reviewing sustainability reports across various industries has provided a solid foundation for benchmarking and evaluating qualitative data effectively, even in the absence of quantified metrics. Their tacit knowledge plays a crucial role in assessments that are not always clear-cut. Thus, auditors' professional backgrounds and their approaches to threshold-setting significantly influence their comfort with qualitative data. Auditors with extensive experience in reviewing qualitative ESG data have developed tacit knowledge, which those with a primarily financial background must develop before effectively engaging with such data.

Moreover, many auditors acknowledged the critical role of involving environmental, social, and governance (ESG) experts to accurately identify material topics and perform complex calculations essential for informing their assessments. However, perspectives on the necessity of these specialists varied among the interviewees. Auditors with extensive experience in sustainability assurance, for example, expressed pronounced reactions to questions about the role of ESG experts. Some even conveyed offense at the suggestion, asserting, "*I am the expert they call in when they need help*", which reflects a high level of confidence in their own expertise. In contrast, auditors with a financial background acknowledged specific areas where their expertise may fall short, making the involvement

of ESG specialists or sustainability-focused auditors essential to perform their work. These differing views often reflect the organizational structure and team composition within audit firms. Some firms adopt a highly integrated approach where sustainability and auditing functions are closely aligned, allowing auditors themselves to be viewed as ESG experts. In these settings, auditors see less need for additional specialist support. Conversely, firms with less integrated team structures tend to rely on ESG experts outside of the audit team, either in-house or external, to address specific knowledge gaps. Here, auditors view the role of specialized ESG experts as critical, recognizing that they lack in-depth expertise in certain areas and are seldom tasked with performing these assessments and calculations themselves.

Furthermore, the diversity of clients served by auditors generates significant variation in the sources of discomfort. Some auditors work with large publicly listed companies on the Swedish stock exchange, while others focus on unlisted medium-sized enterprises. Differences in client size, resources, expertise, business models, external environments, and operational complexities profoundly influence auditors' levels of discomfort in the materiality assessment. A key factor affecting discomfort is the quality of data systems utilized for evidence collection, documentation, and staff competency. While most auditors acknowledge these areas as challenging, those working with larger, more established organizations have noted that these clients, having engaged in sustainability reporting for several years, have significantly refined their processes. As a result, these clients often recognize the intrinsic value of sustainability reporting and require minimal prompting from auditors to underscore its relevance. In contrast, auditors working with medium-sized clients often find it necessary to more actively emphasize the importance of sustainability practices, as these clients' data gathering and control systems are frequently underdeveloped. Despite the enhanced resources available to larger organizations, their operational complexity, stemming from cross-border activities, subsidiary consolidation, and extensive value-chain reporting, can nevertheless present distinct challenges. Even with advanced data systems and controls in place, this complexity can undermine auditors' confidence in the accuracy and completeness of the information provided, as the sheer volume and scope of data become overwhelming. Thus, while large organizations may be somewhat better positioned regarding their auditable environment, they introduce unique complexities in the materiality assessment that medium-sized companies do not exhibit to the same degree. As a result, large organizations require tailored comforting strategies, often developed through close collaboration with internal stakeholders and the controlling department, with whom auditors have had longstanding relationships. This collaboration provides auditors with sufficient explanation and evidence of the data, enabling them to feel more confident.

A final complexity related to the varying perspectives on the discomforts experienced by auditors pertains to their perceptions of the responsibilities inherent in their roles and the nature of the work they are expected to perform. Auditor 5 articulated her decision to

specialize in sustainability, highlighting her genuine concern for environmental, social, and governance (ESG) issues. While reporting initiatives and the Corporate Sustainability Reporting Directive (CSRD) do not require organizations to alter their business models or improve sustainability practices, she expressed frustration with organizations that report on mandated data yet fail to utilize this information for meaningful change or strategic development. She elaborated on her desire to move beyond the conventional role of an auditor, whose primary function is to verify that identified topics are material and accurately reported. However, she feels constrained by the professional guidelines established by her organization. She noted that the expectations outlined in these guidelines frequently conflict with her personal values and aspirations, leading to a sense of discomfort regarding her professional responsibilities. According to her personal criteria, the standards for determining when an audit is considered complete have not always been satisfactorily met. In contrast, many of the auditors did not view this as a significant concern. For them, the determination of when an audit is complete is typically based on the established budget, the extent of testing and documentation reviewed, and the lead auditor's assessment that sufficient discomforts have been alleviated to provide a reliable opinion. Thus, although some auditors may desire to transcend their traditional roles, the overall determination of comfort is primarily influenced by the professionals leading the audit engagements, their respective backgrounds and skills, the characteristics of the audited organizations, and the unique discomforts that arise from the interaction of these various factors.

4.3 Renewal Sense

The state sense of comfort helps explain the varying discomforts experienced by actors during the materiality assessment process, as well as the factors influencing the auditor's determination of when a sufficient level of comfort has been achieved. In contrast, the renewal sense focuses on the forces that introduce new discomforts from the auditor's perspective, thereby reshaping the perception of when adequate work has been done to reach a state of comfort. Given the substantial changes in the sustainability reporting landscape introduced by the CSRD framework, the interviews highlighted the emergence of new factors significantly influencing the materiality assessment process, and consequently, auditors' perception of when sufficient work has been completed.

Auditors are well acquainted with risk from both financial reporting and previous sustainability frameworks, such as the Global Reporting Initiative and the Task Force on Climate-related Financial Disclosures requirements. However, many auditors have observed that the level of perceived and actual risk associated with their work has substantially increased due to the new Corporate Sustainability Reporting Directive. They emphasized that this heightened risk arises from multiple sources, particularly as the CSRD reporting requirements are integrated into the broader European Green Deal. Nevertheless, the main sources of renewed risk can be divided into two factors. First, the

new requirements are mandated under national law, which means that reported information is no longer voluntary. Second, auditors have indicated that expectations from investors and stakeholders have significantly risen, creating a demand for higher quality in the newly reported information. Furthermore, the reported and audited information will be accessible through the European Single Access Point (ESAP), providing investors and stakeholders with easy access to this data. Collectively, these factors increase both the actual and perceived liability that auditors face from government entities and stakeholders, thereby elevating the threshold for what is considered a sufficient materiality assessment.

When the researchers inquired with auditors responsible for planning and managing audits about how heightened risks would impact their work, many auditors voiced concerns regarding the continued classification of audit opinions as limited reviews under both the previous and new reporting frameworks. One auditor expressed this concern as follows:

> "In the case of quarterly financial reporting, you begin with a foundation that has already been audited with reasonable assurance. You can perform analytical reviews, look at trends, and ultimately issue a statement. This approach won't apply under ESRS reporting because we don't have the same baseline to start with […] Very few companies have approached GRI reporting as a black-and-white process; it's more of a grey area. With ESRS you're required to report on specific data points. Under GRI, you could include an omission statement saying, 'we did not report on this,' and still remain compliant, but that option no longer exists with ESRS […] Conducting an audit under ISAE 3000 or RevR6 (GRI) is fundamentally different from auditing in accordance with ESRS and RevR19 standards." (Auditor 8)

As illustrated by the quote above, auditors have expressed concerns that considering heightened risks and demands, they are expected to issue limited reviews, but many auditors are afraid that they will have to conduct work that resembles the rigor of a full audit to establish a benchmark which can be audited with limited review in coming periods. These concerns are particularly pronounced among managers and partners responsible for planning and budgeting the audits. The core challenge lies in the fact that a comprehensive review requires additional resources and a larger budget, which are not available, as clients are only funding the limited review mandated by law. Moreover, while many clients have reported under the GRI framework for several years, and a few have adopted a hybrid approach combining both GRI and ESRS standards, auditors do not consider these reports to provide a sufficient benchmark for issuing limited assurance. The perceived baseline quality of these reports falls short of the expectations set forth by the new auditing standards, compelling auditors to undertake additional work beyond the legal requirements to enhance comfort in their work and instill confidence in regulators and stakeholder expectations.

An additional factor frequently mentioned by the auditors during interviews, currently influencing the determination of acceptable work practices, is the growing acknowledgment that industry specific best-practice leaders are likely to emerge in the coming years. Auditors emphasized the necessity for reasonably harmonized reporting practices within each sector, concerning the material information and data presented in their clients' reports, which should align with those of their peers. They are tasked with ensuring that their clients' reporting not only meets industry benchmarks but also adheres to established best practices. However, the limited availability of CSRD reports poses significant challenges for auditors in determining whether they have adequately assessed their clients' double materiality assessments and sustainability reports, especially when compared to those of their peers, which are not yet available to benchmark against. In the absence of clearly defined best practices and a robust body of reports, auditors must independently assess the level of detail and information required by their clients' stakeholders to meet expectations. This process demands significant experience, tacit knowledge, and institutional expertise. Consequently, this introduces ambiguity and may lead auditors to undertake extensive work beyond the scope of a limited review to avoid setting the bar too low in comparison to their peers. The auditors emphasized that it is preferable to set the bar slightly higher rather than too low, as deviating too far from emerging industry practices could reflect negatively on both the company and the auditor responsible for signing the report.

5 Discussion

The aim of this study was to enhance our understanding of the challenges and complexities inherent in materiality assessments within sustainability assurance engagements among auditors. It also sought to deepen our knowledge of how auditors formulate strategies to operationalize materiality in these engagements. This goal was pursued by examining the experiences of auditors navigating substantial shifts in practice driven by the implementation of the Corporate Sustainability Reporting Directive (CSRD). By leveraging the CSRD's newly established materiality assessment requirements, along with the rapidly evolving auditing standards for sustainability assurance and the shifting expectations of stakeholders, this study offers unique empirical insights that both challenge and expand existing research in the field. In doing so, it provides a nuanced perspective that not only corroborates previous findings but also reveals new dimensions of practice within sustainability assurance.

5.1 Structured Flexibility and Dynamic Frameworks

Prior research shows that flexible sustainability reporting standards, combined with ambiguous auditing guidelines for selecting and evaluating material information, contribute to subjective judgments and inconsistencies in materiality assessments among assurance providers within the same industry (Power, 1997; O'Dwyer and Owen, 2005, 2007; Edgley, 2014, 2015; Moroney & Trotman, 2016; Canning et al., 2019). Currently, the auditing profession is engaged in a process of “fact-building” and negotiation to establish a rigorous framework for materiality assessments under the new CSRD guidelines, a process in which emerging auditing technologies and practices are playing an increasingly central role (Power, 1996). Scholars have critiqued the auditing profession for perpetuating an expectations gap with stakeholders and maintaining an opaque knowledge base, arguing that this opacity enables auditors to exercise broad professional judgment in materiality assessments while insulating themselves from external scrutiny and systemic critique (Power, 1999). While our findings support the view that auditors seek interpretative flexibility to tailor audit procedures to the unique needs of each client, they do not fully align with Power’s theorization that such flexibility is motivated by a desire to evade scrutiny themselves. In our interviews, auditors consistently expressed concerns about the difficulties of demonstrating in a transparent and coherent manner how their work aligns with the new legal requirements. Most auditors emphasized the importance of ensuring that stakeholders, regulatory authorities, and other users of audit reports clearly understand the level of assurance provided and the specific work that it entails. This need for clarity, they noted, is essential for building trust and aligning stakeholder expectations with the realities of the assurance process under the evolving regulatory framework. Thus, the technical formalization of audit knowledge is not merely a “credibility game” to enhance the perceived legitimacy of auditing practice

(Power, 2003), but rather an essential component of auditors' work they perform to create comfort for themselves and stakeholders.

To address the challenges and alleviate the discomfort auditors face in demonstrating compliance with new legal requirements, many auditors have indicated that they draw upon established practices and methodologies from financial auditing, as evidenced in prior research by O'Dwyer (2011) and Canning et al. (2019). Financial auditing techniques are generally viewed as closely aligned with the tasks involved in sustainability assurance engagements. However, as all interviewees pointed out, there are instances where this existing body of knowledge "breaks down," failing to provide auditors with the necessary comfort in their assessments. A particularly prominent challenge lies in setting thresholds for qualitative data and determining when sustainability disclosures are materially misstated. While some auditors, particularly those with extensive experience in sustainability assurance argued that their expertise in evaluating qualitative information mitigates the challenges posed by the lack of quantifiable metrics, many auditors expressed a preference for a structured framework or model, such as quantifiable scales or internal company guidelines, to guide their judgments. This view contrasts with Power's (2003) argument that structure might impede the exercise of professional judgment. Rather, it supports the findings by Canning et al. (2019) and MacLullich (2003), suggesting that in the face of high uncertainty and ambiguity, auditors favor structured approaches that not only support but also allow for the flexible application of professional judgment. This approach enables auditors to substantiate their work effectively while enhancing the intellectual rigor of their assessments which they argue is an essential component of their work, as materiality assessment cannot be applied mechanically (Power, 1997). Auditors expressed a strong desire for a structured framework that provides clear direction for their materiality assessments without prescribing the exact steps to achieve it. In response, many accounting firms are actively developing internal guidelines, establishing robust information channels, and building technical expertise. These efforts are informed by input from diverse internal stakeholders, guidance from standard setters, and insights drawn from industry peers. This collaborative approach aims to enhance the quality and auditability of clients' double materiality assessments and their resulting disclosures.

5.2 Specialization and Multidisciplinarity

Auditors acknowledged that the new CSRD reporting guidelines enhance the reliability of selected topics included in organizations' sustainability reports. However, they emphasized that despite these advancements, significant challenges persist in evaluating the outputs of double materiality assessments. Specifically, verifying the completeness and accuracy of the disclosed information to determine whether it contains material misstatements remains a complex and demanding task. To address these challenges auditors reported relying on both internal and external ESG experts to complement their

own expertise when evaluating the information. This practice aligns with Power's (1997) assertion that the development of new audit knowledge and technologies often requires the collaboration of professionals from diverse fields, leading to the creation of "chains of reliance" that blur the boundaries between skills within and outside the audit process (Power, 1999). Such dynamics may also give rise to debates over who holds institutional authority in orchestrating the audit process. While Power (1996, 1997) and O'Dwyer (2011) argue that experts are primarily engaged to enhance the credibility of auditors' work rather than contributing substantively through their expertise, our study presents a contrasting perspective. Auditors in our study emphasized the critical role of experts in facilitating making their work possible, challenging the notion of expert marginalization (O'Dwyer 2011). This perspective also challenges the idea that professionals within accounting firms must embody the rules of the game and the prevailing norms of accounting firms to thrive (Andon et al., 2015).

Building on the findings by Canning et al. (2019), our findings show that experts are granted significant autonomy in their work and are considered integral members of audit teams. They provide essential input on materiality assessments and contribute to auditors' education on emerging issues, playing a key role in alleviating uncertainties and enabling the audit of material information. However, while recognizing the crucial role of experts, the argument put forth by Power (1999), that auditors have developed skills over time to position themselves at the top of the hierarchical structure remains relevant to our findings. Both auditors and experts agree that despite the importance of expert contributions, it is the auditors who should lead the engagements due to their "unique" expertise and skills. This highlights that the "system of knowledge" auditors has cultivated, safeguarded, and continuously refined over time remains an exclusive domain, inaccessible to professionals outside the boundaries established by the auditing profession (Power 1996). This exclusivity reflects a deliberate effort to safeguard and maintain their specialized expertise. In our study, this was evident through the technical marginalization of non-auditors, who neither have access to nor are trained in the specific working programs, documentation, and procedures deemed essential to the auditing process. This contrasts with the findings of Canning et al. (2019), where experts were provided with access to develop their skills and familiarize themselves with the technologies employed by auditors, enabling them to integrate these tools into their daily work. Such an approach indicates a less protective and more collaborative relationship between auditors and experts than what was observed among our interviewees.

5.3 Auditable Environments and Role Flexibility

Power (1996, 1999) argues that the auditing system not only operates within but also actively shapes its external organizational environment by emphasizing clear, measurable performance metrics within a structured control framework. This framework grants auditors an implicit "control over control," enabling them to define what constitutes

effectiveness, particularly in contexts with ambiguous outcomes. Prior studies illustrate how the audit profession has successfully commodified its practice and expanded its reach into diverse professional domains, including sports (Andon and Free, 2012), efficiency auditing (Radcliffe, 1999), and environmental auditing (O'Dwyer, 2011). In doing so, these studies demonstrate that auditors actively reacted upon their environment, working to create conditions that enhance auditable structures and align with prevailing audit technologies. Consistent with prior research (Dumay et al., 2015; Demaria & Rigot, 2021; Di Marco et al., 2023), auditors in our study emphasized the challenges stemming from underdeveloped data systems and the absence of necessary expertise to establish internal criteria for materiality assessments. The suboptimal physical environment further exacerbates auditors' discomfort as they are frequently required to work with unfamiliar data that may be poorly structured or inadequately collected and documented for auditing purposes. This misalignment between available information and audit requirements introduces additional complexities, impeding auditors' ability to perform comprehensive and effective assessments. However, in contrast to the findings of O'Dwyer (2011) and O'Dwyer et al. (2011), who observed that auditors often adopt an "advisory" role, proactively working to improve data quality, documentation, and control systems for their clients, our findings present a different picture. The auditors interviewed in our study indicated that they are not empowered to mandate the implementation of specific systems or controls, as doing so would compromise their professional independence. Instead, they can only point out deficiencies and recommend areas for improvement. Additionally, most auditors expressed caution in making recommendations, as they remain uncertain about which systems will be most relevant under the CSRD framework moving forward.

Therefore, Power's (1996, 1999) assertion that auditors design organizational systems exclusively to facilitate audits and fulfill the programmatic objectives of regulatory frameworks (Rose and Miller, 1992), without contributing to substantive improvements in core activities, does not fully align with the findings of our study. Similarly, the notion that auditors "act upon their environment directly" is also not entirely supported by our observations. According to the auditors, most of the operational improvements currently underway, as well as those historically implemented, are carried out by other accounting firms and third-party consultants. While accounting firms often design systems that align reasonably well with the audit methodologies of other accounting firms, third-party consultants rarely take the specific needs of auditors into account. Even when they do, most auditors view these systems as far from ideal and believe they would have implemented different solutions if given the freedom to make those decisions themselves. However, what remains relevant in Power's assertion is the claim that auditing systems may not always contribute to meaningful improvements. As emphasized by the interviewed auditors, the CSRD framework requires organizations to report on data but does not mandate them to act upon it. Therefore, the auditors highlighted that a business case for sustainability is essential to motivate clients, as many organizations currently lack a clear implementation strategy (O'Dwyer et al., 2011). While auditors can reduce

discomfort by advocating for the decision-making benefits of sustainability data, such as encouraging clients to enhance the quality of their data systems and controls, the regulatory environment offers limited direct incentives for organizations to prioritize such improvements. This demonstrates a potential mismatch between the programmatic intentions of regulatory programs and the strategies auditors must employ to provide themselves with comfort (Rose and Miller, 1992; Pentland, 1993; Power, 1999; Carrington & Catasús, 2007). Therefore, while the process of role flexibility and comfort creation is intended to support auditors in their work, the actions they undertake in this process can also be mutually beneficial, contributing to the effectiveness of regulatory programs rather than serving solely to enable auditing in a new domain.

5.4 Tailored Comforting Strategies within Accepted Boundaries

The findings reinforce earlier studies that highlight auditors' engagement in "rituals of verification", where purification practices help alleviate discomfort by presenting complex data in a clear and accessible manner for stakeholders. These rituals are underpinned by the collective judgment of the team, making the process of providing comfort a shared responsibility (Pentland, 1993; Edgely, 2014). While materiality is not determined by a single individual within an audit firm, this does not imply that strategies for providing comfort are universally accepted by all team members. Objectives related to sustainability assurance can vary significantly among professionals, both across and within firms (Boiral et al., 2020; Channuntapipat et al., 2019; Edgley et al., 2015; O'Dwyer, 2011). Individual auditors sense making strongly influence auditors' "logics of action", shaping their understanding of roles and responsibilities (Bouten et al., 2024). Consequently, producing comfort at the micro level can be contested, with differing views on the most appropriate practices. When auditing procedures and technologies arising from these processes are eventually codified into a "strategy of closure", they may conflict with individual practitioners' values (Power, 1995).

Our findings support previous research indicating that members of sustainability assurance teams may have differing objectives regarding materiality assessment. However, unlike prior studies (O'Dwyer, 2011; Channuntapipat et al., 2019; Bouten et al., 2024), we found that these differences did not undermine team cohesion or lead to coordination issues. Although some audit professionals expressed a desire to exceed their formal responsibilities by offering advisory input on clients' double materiality assessments or data utilization, they emphasized the necessity of adhering to company guidelines and maintaining professionalism towards their employer. As a result, the distinct roles identified in prior research, such as "data verifier" and "business value provider", did not emerge in our study. This aligns with comments from audit managers in our study, who underscored the importance of clear instructions and guidelines in defining each team member's role, thereby preventing them from working outside their designated responsibilities. Consequently, our findings suggest that audit managers'

philosophies, alongside firm guidelines, effectively restrict attempts by team members to assume roles beyond their professional scope. Internal company guidelines and the lead audit manager play a central role in determining when sufficient work has been performed and what constitutes high-quality work. Therefore, while multiple auditors contribute to the "strategy of closure" and the creation of "comfort", certain actors exert disproportionate influence over these decisions, despite not always being directly involved in the hands-on work being performed.

In contrast to prior studies that emphasize individual "logics of action" as the main source of practice variation among auditors (Bouten et al., 2024), our study highlights different factors driving this variation. While the end goal of the materiality assessment process is clear to all team members, the path and obstacles encountered along the way vary. The primary sources of practice variations and perceptions of discomfort related to the materiality assessment arise from differences in experience between junior and senior audit partners, distinctions between financial and sustainability auditors, and the size and resources of clients for whom the assessments are performed. These factors contribute to varying levels of discomfort and necessitate different strategies to alleviate them. Auditors face diverse challenges in their work due to their varying areas of responsibility, skill levels, and tacit knowledge, as well as the different environments in which they apply their expertise. As a result, discomforts primarily stem from these differences rather than from perceptions about their roles or their individual "logics of action". Actors are compelled to develop their own solutions to perform the work while operating within the objectives set by the lead audit manager and the firm's guidelines, rather than in a way that aligns with their own personal objectives.

5.5 Mitigating Legal Liabilities through Scope Expansion

Previous studies on sustainability assurance engagements have primarily been conducted within a voluntary setting (O'Dwyer, 2011; O'Dwyer et al., 2011; Edgley et al., 2015; Moroney & Trotman, 2016; Canning et al., 2019; Channuntapipat et al., 2019; Bouten et al., 2024). As a result, these studies have not explored the impact of legal liability concerns on auditors' practices or the broader implications of such concerns. Our study reveals that the legal requirements introduced by the CSRD framework have catalyzed a "state of renewal" within the auditing industry, prompting significant shifts in auditors' methodologies and perceptions (Carrington & Catasús, 2007). Our findings suggest that stakeholders' roles are evolving beyond their traditional passive advisory function in determining what constitutes material information for specific companies and industries (O'Dwyer 2011). As most auditors noted, the increasing comparability of reported data, facilitated by data tagging, enables stakeholders to scrutinize organizations' work more rigorously. Additionally, accounting firms are facing much higher scrutiny from regulators regarding their assurance of sustainability information compared to previous periods. Consequently, the expectations for what constitutes an acceptable audit have

become more stringent. Many auditors reported that their current responsibilities go beyond limited review procedures, emphasizing the need to establish a robust benchmark for future reporting periods, as previous audits are no longer deemed sufficient for the procedures carried out in a limited review. The need to justify conclusions, engage key stakeholders, and ensure the relevance of reported data is becoming increasingly critical. This is reflected in the rising demands on reporting organizations to enhance the quality of procedures and documentation, alongside accounting firms' efforts to integrate specialized team members into audit teams and develop advanced audit tools and manuals. These initiatives aim to mitigate the risk of assuring reports that fail to meet legal requirements while protecting an organization’s reputation by aligning reported sustainability information with evolving best practices. Ultimately, this approach aims to mitigate potential legal liabilities and reputational risks for both organizations and auditors by establishing standards that are intentionally set above the bare minimum.

6 Conclusion

The purpose of this study has been to examine how auditors navigate the challenges posed by the CSRD framework in their materiality assessments of reported accounting information. The research identifies the sources of discomfort auditors experience and the strategies they employ to ensure that the framework is auditable. By applying the comfort framework as a theoretical lens, the study contributes to the literature on rendering new domains auditable, offering valuable insights into this process. The study addresses the following research question:

> *How do auditors navigate challenges when assessing materiality in sustainability assurance engagements?*

Our study advances and extends existing literature on how new domains are rendered auditable by demonstrating that "auditability" is not a static construct but a dynamic process. It highlights that the negotiation and development of "audit knowledge" on the micro-level varies across different sustainability frameworks and are significantly influenced by the specific auditing concepts being adapted to the sustainability domain. Furthermore, we show that the "commodification" of auditing and its expansion into new domains are deeply context-dependent and shaped by the diverse actors involved in the process. Drawing on unique empirical material, including interviews with senior auditing partners, junior auditors, and professionals from diverse auditing backgrounds, this study reveals variation in how materiality is operationalized and the associated discomforts experienced by different auditing practitioners.

The study highlights that auditors challenge the traditional opacity of the auditing production function, historically seen as a mechanism for insulating the profession from systemic scrutiny and enabling its expansion into new domains. Instead, ambiguous auditing standards are identified as significant sources of discomfort. To address these challenges, auditors employ a range of comforting strategies, such as forming multidisciplinary teams, developing internal company guidelines, and collaborating with standard setters and industry peers. These efforts are aimed at demonstrating the rigor and transparency of their work to stakeholders. Furthermore, while prior research suggests that financial auditing practices often serve as a benchmark for sustainability audits, the study reveals that translating materiality into the sustainability domain uncovers critical gaps in the existing audit knowledge base. This process catalyzes a process of renewal within the auditing profession, necessitating the negotiation and development of new audit knowledge to achieve a “strategy of closure”. Our study shows that the evolving demands of double materiality under the CSRD framework require innovative approaches that extend beyond traditional financial auditing techniques to meet the framework's requirements effectively. Moreover, the findings indicate that auditors prefer operating within a structured framework that provides clear direction while allowing for reasonable

flexibility, enabling them to adapt to the unique challenges posed by sustainability audits, particularly qualitative data. Furthermore, the study underscores the complex interplay between reporting standards, organizational environments, and auditing standards necessary for effective compliance evaluation. While prior research suggests that auditors actively shape their external environment by recommending improvements to data and control systems, our findings do not support this view. Instead, auditors engage in "role flexibility" by promoting the benefits of sustainability information to their clients.

Moreover, the study contributes to the growing literature on how sensemaking and institutional dynamics influence individual auditors' assigned objectives and preferred approaches to sustainability assurance. Prior research has highlighted that auditors often adopt different roles and objectives based on their interpretations of their responsibilities. However, our findings indicate that these variations are significantly constrained by firm-level professional guidelines and robust socialization processes. As a result, differences in auditing practices are primarily attributed to variations in experience, tacit knowledge, areas of specialization within auditing, and the external client environment in which auditors operate. Auditors thus encounter distinct sources of discomfort and must devise unique "comforting strategies" to mitigate these challenges. However, these strategies must align with firm guidelines and the lead auditor's interpretation of what constitutes sufficient and acceptable audit work in materiality assessments.

This study offers practical implications alongside its theoretical contributions. Our findings suggest that the scope, complexity, and level of detail introduced by the CSRD framework's double-materiality assessment will require accounting firms to adapt their team structures by integrating new skills and expertise in ESG areas. This will be crucial to ensure that the framework's objectives do not become a mere box-ticking exercise, but instead serve as a genuine catalyst for organizational change, effectively contributing to sustainability practices by challenging the relevance of organizations' double-materiality assessments. Furthermore, accounting firms that have adopted an approach of integrating auditors with ESG experts realize multiple benefits. These professionals gain insights into each other's perspectives on materiality assessments, acquire new skills, and enhance the effectiveness of collaboration and assessment processes.

Moreover, several auditors expressed concerns about the rushed implementation of the CSRD framework by regulators, highlighting numerous unresolved questions regarding its practical application. The ambiguity within existing auditing standards relative to the new reporting guidelines has further compounded this uncertainty. In response, the International Auditing and Assurance Standards Board (IAASB) should assess the need to refine the practical aspects of auditing standards related to materiality assessment and the assurance of non-financial disclosures. Currently, there is considerable ambiguity regarding how auditors can effectively demonstrate the work conducted to fulfill the framework's requirements. Finally, some auditors also questioned whether the level of detail required in the double materiality assessment is excessive, expressing concerns

about the practicality and actual utility of the information for stakeholders. As the framework continues to evolve with additional layers, regulators must remain attentive to practitioners' concerns, as the current implementation poses significant practical and economic challenges. Organizations and accounting firms are investing substantial resources into developing new data systems and upskilling employees to ensure they have the necessary capabilities to meet the CSRD framework's requirements. However, the authors highlight the risk that if the requirements remain overly burdensome as additional layers are introduced, the implementation may become superficial, with efforts focused on regulatory compliance rather than on achieving a meaningful impact through organizations acting on the data.

This study has limitations that should be acknowledged, as they help contextualize the findings and identify potential directions for future research. Firstly, the temporal context of this study is important, as data was collected during the later stages of the CSRD implementation process. At this stage, organizations and auditors were collecting data and selecting relevant areas for the double materiality assessment, experimenting with new processes, refining procedures, and engaging in discussions to address challenges and develop solutions to operationalize the CSRD framework. As a result, the findings reflect an initial understanding of the obstacles encountered and the strategies professionals are using to adapt to these evolving requirements. Future research could further investigate the conditions that enable multidisciplinary audit teams to fully leverage synergies through knowledge sharing. Additionally, studies could explore how power dynamics within teams, along with the internal guidelines established by accounting firms, either facilitate or hinder the effective assessment of material information and misstatements.

Secondly, although the interviewees and their organizations have been working with non-financial data for several years, new methods and criteria are being introduced to establish thresholds for qualitative data. Future research could further investigate which models are perceived as most effective, in contrast to those that have been abandoned. A deeper understanding of this phenomenon could shed light on potential variations in the interpretations and conclusions of non-financial data among accounting firms and professionals, as well as differences in the audit opinions they issue.

Finally, our study suggests that not only does the client's physical environment play a crucial role in auditors' assessments, but also the indirect and tacit information shared between auditors and their clients. Future studies could explore in greater depth the nature of this "behind-the-scenes" information sharing and how it helps alleviate discomfort, ultimately enabling auditors to issue a positive audit opinion.

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8 Appendix

Appendix A: Overview of Interviews

Accounting Firm	**Interviewee Occupation**	**Identification Code**	**Date of Interview**	**Duration of Interview (minutes)**
Alpha	Junior Auditor*	Auditor 1	Sep 2024	65
Alpha	Sustainability Consultant	Specialist 1	Sep 2024	45
Alpha	Auditing Director	Auditor 4	Oct 2024	50
Alpha	Junior Auditor	Auditor 6	Oct 2024	60
Alpha	Auditing Partner	Auditor 13	Nov 2024	50
Beta	Sustainability Consultant	Specialist 2	Sep 2024	60
Beta	Sustainability Consultant	Specialist 3	Sep 2024	45
Beta	Junior Auditor	Auditor 5	Oct 2024	60
Beta	Auditing Director	Auditor 10	Oct 2024	50
Gamma	Auditing Partner	Auditor 2	Sep 2024	60
Gamma	Auditing Director	Auditor 7	Oct 2024	65
Gamma	Auditing Partner	Auditor 12	Nov 2024	60
Gamma	Junior Auditor	Auditor 14	Nov 2024	55
Delta	Auditing Director	Auditor 11	Oct 2024	90
Epsilon	Auditing Partner	Auditor 3	Oct 2024	65
Epsilon	Auditing Director	Auditor 8	Oct 2024	60
Epsilon	Sustainability Consultant	Specialist 4	Oct 2024	45
Zeta	Auditing Director	Auditor 9	Oct 2024	60

* Junior auditors are labeled for differentiation purposes from directors and partners, although the interviewees have around five years of experience and are commonly referred to as "seniors" in practice

Appendix B: General Interview Guide

The following themes and example questions guided the semi-structured interviews. The interview guide was customized for each interviewee to align with their specific background and expertise.

Theme	Exemplary Questions for the Interviewee
Materiality	- What guidelines do you use to assess whether sustainability information can influence users' decision-making process? - How do you know that you are auditing the most material sustainability areas? What strategies do you use? - How does the process of setting thresholds in sustainability auditing differ from that in financial auditing? - Is it more complex to audit qualitative data compared to quantitative data?
Double-Materiality	- How does the application of double materiality by companies influence your materiality assessments? - What challenges have you encountered regarding companies' selection of the most material areas in their double materiality assessment? - Do companies determine materiality based on the sustainability information stakeholders want, or on the information they can provide?
Judgement and Structure	- How do you perceive the usefulness of the auditing standards in supporting the materiality assessment in your daily work? - How do you perceive the balance between structured guidelines and flexibility in the auditing process?
Financial Auditing Techniques	- How do you perceive the applicability of traditional financial auditing methods to sustainability auditing? - How feasible is it to perform substantive testing and apply structured methods to ensure data is not materially misstated?
Specialists and Cooperation	- What challenges do you see with auditors reviewing qualitative sustainability data, and when do they seek your assistance? - How effectively does the collaboration with auditors function?
Client Relationships	- To what extent do you need to adapt the company's environment? - How does client familiarity, including previous engagements and their level of maturity, influence your work? - To what extent must client satisfaction be maintained throughout the process, how does it affect your materiality assessment? - How do you account for risks when reviewing sustainability information, and what changes does the CSRD bring?
Auditing and Quality	- How do you assess quality of audit work related to the materiality assessment? Who determines when the work is sufficient?

Appendix C: Matrices

Matrix A: Identification and construction of core empirical themes.

	Double-Materiality	**Judgement, Structure & Guidelines**	**…**	**Client Relationships**
Professional 1				
Professional 2				
…				
Professional n				

Matrix B: Construction of theoretical concepts.

	Materiality Assessments in Sustainability Assurance Engagements	**Construction of Auditable Environments**
Relief Sense		
State Sense		
Renewal Sense		