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The Future of Standardized Sustainability Reporting

Tia Rebecca Driver, Amr ElAlfy and Olaf Weber

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Table of Contents

vi About the Authors

vi Acronyms and Abbreviations

1 Executive Summary

1 Introduction

3 A Review of Sustainability Reporting Standards and Frameworks

9 Mandatory Sustainability Reporting

12 The Materiality Dilemma

14 Standardizing Sustainability Reporting: Implications and Challenges

15 Conclusion and Policy Recommendations

17 Works Cited

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Acronyms and Abbreviations

CDP	Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
CSR	corporate social responsibility
EFRAG	European Financial Reporting Advisory Group
ESG	environmental and social governance
FSB	Financial Stability Board
GHG	greenhouse gas
GRI	Global Reporting Initiative
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
ISO	International Organization for Standardization
ISSB	International Sustainability Standards Board
PRI	Principles of Responsible Investment
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
TCFD	Task Force on Climate-related Financial Disclosure

Executive Summary

The recent collaborative efforts between five predominant sustainability reporting standard setters suggest that corporate reporting standardization might be possible in the near future. The topics of double materiality and mandatory reporting have been explored in the literature. However, the implications of these topics on the efforts to standardize corporate sustainability reporting should be examined more closely.

In comparing existing sustainability reporting standards and frameworks, the authors of this paper found that these standards and frameworks are grounded in different reporting goals. Some standards and frameworks prefer financial materiality as a critical determinant for sustainability disclosure. This preference undermines the role of non-financial information in sustainability reporting, and could limit the scope of corporate disclosures. Thus, standardizing corporate sustainability reporting could inadvertently promote a narrow corporate sustainability perspective.

Furthermore, a review of the application of mandatory reporting found discrepancies in the quality and comprehensiveness of corporate disclosures. The findings also highlighted some limitations of the soft governance approach used in some jurisdictions. These insights suggest that standardization efforts should be mindful of the autonomy provided to corporations. More autonomy might result in corporations disclosing less information.

Based on our analysis of the existing corporate sustainability reporting landscape, we provide two recommendations to policy makers: establish mandatory minimum reporting requirements based on insights from existing industry-specific reporting standards, and embed double materiality into minimum reporting requirements to ensure alignment between corporate reporting and sustainable development.

Introduction

The pursuit of sustainability development has seen an extensive expansion in the roles and responsibilities of corporate organizations. The infamous cases of the Deepwater Horizon oil spill in the Gulf of Mexico in 2010 (Balmer, Powell and Greyser 2011; Walker et al. 2015), the Rana Plaza factory collapse in Bangladesh in 2013 (Siddiqui, McPhail and Rahman 2020) and the more recent allegations of greenwashing brought against HSBC (Wong 2022) highlight the need for closer oversight by stakeholders and more transparent communication from corporations. As a result of these issues and other similar disasters, corporate sustainability reporting standards have been developed by regulators and reporting entities to address concerns about the adverse impacts of corporate operations on society and the natural environment.

Fundamentally, corporate sustainability reporting is a medium through which a corporation communicates *non-financial information* to its stakeholders to ensure the legitimacy of its operations and manage its reputation (Herzig and Schaltegger 2006). Non-financial information refers to information related to areas of corporate performance other than financial performance, such as sustainability performance or environmental and social governance (ESG) performance (Adams and Abhayawansa 2022; Stolowy and Paugam 2018). Suppose that non-financial information is reported alongside traditional financial information, a practice known as integrated reporting. In that case, corporations can not only demonstrate how sustainability is embedded in corporate practices and governance but also provide stakeholders with a better understanding of the risks and opportunities of sustainability development for the corporation (Setia, Abhayawansa and Joshi 2022).

Corporate reporting started in the early nineteenth century with financial reporting, where corporations report their financial results to investors. Social reporting started in the late 1960s in Europe, where corporations reported to labour unions on their social performance (for example, working conditions and compensations for employees). *Social reporting*, unlike conventional reporting, focuses on qualitative and non-financial terms (Gray 2002). Subsequently, the Brundtland Commission's agenda proposed "long-term

environmental strategies that can achieve effective 'sustainable development' to the year 2000 and beyond" (UN Secretary-General and World Commission on Environment and Development 1987). As a result, *sustainability accounting* emerged in this milieu, where accountants started reporting to management and external stakeholders on firms' environmental performance and impact (Schaltegger and Burritt 2006).

Moreover, there are many standards for corporations to select from, each offering a unique focus, target stakeholder, or reporting criteria (ElAlfy and Weber 2019). The Global Reporting Initiative (GRI), the Task Force on Climate-related Financial Disclosure (TCFD), the Sustainability Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC) are examples of popular standards that are used globally by corporations (ibid.). The variety of sustainability reporting standards available can result in information overload for stakeholders (Stolowy and Paugam 2018). Due to the number of standards available, there are calls to streamline the reporting process by merging the standards (International Financial Reporting Standards [IFRS] Foundation 2021; World Economic Forum 2020). In response to such calls, the above reporting frameworks, along with the Carbon Disclosure Project (CDP) and the Climate Disclosure Standards Board (CDSB), have recently developed a joint vision for the future of integrated reporting, while also highlighting the complementary nature of their frameworks (CDP 2020). Similarly, the IFRS Foundation seeks to establish a standardized approach to integrated reporting in collaboration with the SASB and the GRI and under the supervision of the International Accounting Standards Board (IASB) and the International Sustainability Standards Board (ISSB) (IFRS Foundation 2022b).

Furthermore, there has been a growing interest by governance organizations (for example, governments and security exchanges) to implement mandatory sustainability reporting mechanisms (Agostini, Costa and Korca 2022; Baumüller and Sopp 2022) as a means of addressing the low quality of existing reports and facilitating the integration of sustainable practices by corporations (Liu, Failler and Chen 2021; Mion and Loza Adaui 2019). However, the original focus on corporate sustainability appears to be overshadowed by the current interest in addressing the desires of investors ahead of other key stakeholders. Scholars have also been cynical about the quality of sustainability reporting, given the lack of comparability among numerous reporting frameworks (Adams and Abhayawansa 2022).

This paper contributes to the current discussion of standardized sustainability reporting by analyzing the landscape of reporting frameworks and their governance bodies, which oversee and work on the standardization of sustainability reporting. To achieve this goal, the paper examines the similarities and differences among prominent reporting frameworks to understand how they complement or conflict with one another. Additionally, the paper investigates the impact of mandatory reporting and materiality to understand how these concepts could influence the application and extensiveness of a composite reporting standard. By conducting this analysis, we provide recommendations that facilitate a standardized reporting approach that centres on sustainability development.

The remainder of this paper is structured as follows: the next section will present a review of current reporting standards and frameworks to provide contextual background on the governance of sustainability reporting. The third section will present insights on the application of mandatory reporting to understand how standardization might benefit or hinder corporate sustainability reporting. The complex relationship between materiality and sustainability reporting is examined in the fourth section to highlight the challenges with the current approach to defining materiality and the impacts these challenges have on reporting standardization. The fifth section will discuss the potential to merge the reporting standards by examining existing collaboration efforts and the compatibility of existing standards. The final section will present our policy recommendations.

A Review of Sustainability Reporting Standards and Frameworks

The purpose of corporate sustainability reporting is to share information about a corporation's sustainability performance with its stakeholders (Herzig and Schaltegger 2006; Setia, Abhayawansa and Joshi 2022; Stolowy and Paugam 2018). As such, various stakeholders can use sustainability reports to evaluate the legitimacy of the corporation's actions and ensure that the corporation is taking responsibility for adverse impacts (Bradford et al. 2017; Herzig and Schaltegger 2006; O'Dwyer, Unerman and Hession 2005). A key challenge for corporations is communicating such information to satisfy stakeholders by providing a comprehensive summary of the corporation's sustainable performance (Herzig and Schaltegger 2006). To address this challenge, several institutions began to develop comprehensive standards to facilitate corporate responsibility and provide structure for sustainability reporting.[1]

Reporting standards were developed to address niche requirements for specific stakeholders, financial investors, for example, or to provide details on particular sustainability issues, such as climate change (ElAlfy and Weber 2019), resulting in diverse approaches to addressing sustainability-related impacts (Bradford et al. 2017). Common critiques of existing standards include concerns regarding conflicting or inconsistent reporting due to the differences in approaches to reporting corporate sustainability (Adams and Abhayawansa 2022), as well as the potential for standards to address the needs of only a single or dominant stakeholder group, namely shareholders (Bradford et al. 2017).

Moreover, the corporate sustainability reporting landscape has seen recent developments with attempts to better align corporate reporting with the United Nations' Sustainable Development Goals (SDGs) (Calabrese et al. 2021) and collaboration between standard setters. One key facilitator in corporate sustainability reporting is the UN Global Compact, which seeks to support businesses in aligning themselves with the SDGs and adopting responsible business practices.[2] Participation in the UN Global Compact is voluntary;[3] thus, the compact cannot make corporate sustainability reporting mandatory for participating companies. However, these efforts by the compact demonstrate a pathway to integrate the SDGs with corporate sustainability reporting.

Furthermore, in September 2020, the five most prominent reporting frameworks — CDP, GRI, SASB, IIRC and CDSB — issued a statement of collaboration toward the standardization of sustainability reporting (IFRS Foundation 2022d). Consequently, after this statement, the IFRS took the lead by establishing the ISSB, which aims to develop a comprehensive global baseline for sustainability disclosure standards, on November 2, 2021.[4]

Given the current updates in the arena of reporting standards, the remainder of this section will provide a brief overview of the critical features of five prominent reporting standards, which include the CDP, the TCFD, the GRI, the SASB and the IFRS. Additionally, we provide a review of the Principles of Responsible Investment (PRI), the IIRC and the European Financial Reporting Advisory Group (known by its acronym, EFRAG) to shed light on the attempts to integrate sustainability reporting so that it better aligns with the reporting preferences or norms of financial stakeholders.

Sustainability Reporting Standards

Several organizations have developed standards that outline specific reporting topics to assist corporations in developing relevant sustainability reports. This section will explore six corporate sustainability reporting or disclosure standards, each of which provides a unique approach to sustainability reporting and integration of the SDGs.

GRI Standards

GRI's reporting standards aim to provide a common methodology for organizations to communicate and take responsibility for their sustainability impacts.[5]

1 See, for example, "A Short Introduction to the GRI Standards" (GRI 2022) and the SASB's "About Us" webpage (www.sasb.org/about/).

2 See www.unglobalcompact.org/what-is-gc/mission.

3 See www.unglobalcompact.org/about/faq.

4 See www.ifrs.org/groups/international-sustainability-standards-board/.

5 See www.globalreporting.org/about-gri/.

The standards provide a comprehensive overview of the possible social, environmental and economic impacts an organization could have and are separated into universal, sector and topic-specific standards to account for the range of possible impacts.[6] Furthermore, the work of Armando Calabrese and colleagues (2021) has highlighted how specific GRI indicators align with the SDGs, which suggests that the SDGs can complement existing sustainability reporting standards.

The *universal standards* apply to all organizations that adopt GRI standards in their reporting (GRI 2022). The universal standards ask organizations to share insights on their organizational structure, including governance, practices, activities and stakeholder engagement.[7] As part of the universal requirements, significant impacts arising from the organization's operations, referred to as *material topics*, must be shared. The organization should provide a list of these topics, clarify the process they used to identify them, and provide a plan to address or manage these impacts.[8] Once the universal standards are completed, organizations can move on to reporting on the more specific sector and topic standards.

The second grouping of standards, *sector standards*, guides organizations that operate within specific sectors that traditionally have higher sustainability impacts. Currently, guidance is only available for the agriculture and aquaculture, coal, oil and gas sectors.[9] These sector standards build on the material topics outlined in the universal standards by providing specific guidance on what to report and recommendations on managing the topics.[10]

The *topic standards* provide similar features as the sector standards in managing and reporting materiality topics. Organizations select the most relevant topic standards on the basis of their materiality as assessed against the universal standards. Overall, the suite of standards provided by the GRI provides organizations with a comprehensive overview of their social, economic and environmental impacts. Additionally, GRI standards guide in identifying, addressing and communicating a broad range of material topics.

CDP Standards

The CDP, formerly known as the Carbon Disclosure Project, is an international non-profit organization that has developed a reporting standard that focuses on disclosing information related to climate change, forests and water security.[11] The CDP offers standards for corporate entities, municipal and other subnational governments, and other public authorities.[12]

For corporate entities, information regarding the three topic areas — climate change, forests and water security — is disclosed through a series of questionnaires (one per topic area) developed and distributed by the CDP.[13] Additionally, the organization has aligned its questionnaires with the TCFD's recommendations to facilitate the disclosure of non-financial climate-related information (CDP 2023).

Moreover, the CDP allows investors and other stakeholders to submit requests for information from corporations regarding the topic areas, and the organization will contact the identified company.[14] By allowing stakeholders to submit requests for disclosure, the organization is attempting to improve transparency and stakeholder engagement.[15] Even if a request for information is submitted, the CDP process is entirely voluntary, and corporations can choose not to complete the CDP's questionnaires.[16] Alternatively, corporations can self-report if they have not received any specific request to do so.[17]

Corporations that choose to respond are provided access to the necessary questionnaires and assigned a score based on their responses. Corporations are scored on a ranked alphabetical scale, with D

6 See www.globalreporting.org/standards/.

7 See "GRI 2: General Disclosures 2021," at www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/.

8 See "GRI 3: Material Topics 2021," at ibid.

9 GRI (2022); see also www.globalreporting.org/standards/sector-program/.

10 See "GRI 11: Oil and Gas Sector 2021," at www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/.

11 See www.cdp.net/en/info/about-us/what-we-do.

12 See www.cdp.net/en/guidance.

13 Ibid.

14 See www.cdp.net/en/companies-discloser/how-to-disclose-as-a-company/investor-requested-companies.

15 Ibid.; see also www.cdp.net/en/companies-discloser.

16 See www.cdp.net/en/companies-discloser/how-to-disclose-as-a-company/investor-requested-companies.

17 See www.cdp.net/en/companies-discloser/how-to-disclose-as-a-company/faqs-for-companies.

being the lowest possible score and A being the highest. Corporations can receive three different scores because each of the three topic areas is evaluated through a separate questionnaire.[18]

Finally, the CDP's standards closely align with the SDGs due to the standards' focus on the natural environment, climate change, and cities, states and regions (Bernick et al. 2021). The water security questionnaire aligns with SDG 6, clean water and sanitation. Data for SDGs 7 and 13 is provided through the climate change questionnaire. Insights from the forest questionnaire support SDG 15, while the "cities, states and regions" theme aligns with SDGs 11, 12 and all of the previously mentioned SDGs.

International Organization for Standardization

The ISO (International Organization for Standardization) is a non-governmental organization that develops and publishes international standards for various industries and technologies. These standards provide common guidelines and specifications for products, services and systems to ensure quality, safety and efficiency. Several ISO standards relating to sustainability are available, including ISO 9001 for quality management systems and ISO 14001 for environmental management systems. Additionally, ISO 14064-1 provides general principles and requirements for quantifying and reporting greenhouse gas (GHG) emissions and removals (ISO 2018). ISO 14064-2 provides specific requirements for quantifying, monitoring, reporting and verifying GHG emissions at the project level, such as carbon offset projects (ISO 2019a).

Further, ISO 14064-3 guides the validation and verification of GHG "assertions," which are statements by an organization or project about its performance regarding GHG emissions or removals (ISO 2019b).

Finally, ISO 14065 is the standard for accreditation of GHG validation and verification bodies. It specifies the requirements for the accreditation of organizations that conduct validation and verification of GHG assertions, as required by ISO 14064-3 (ISO 2020). This standard is based on financial accounting and auditing principles.

18 Ibid.

In Canada, these standards have been made mandatory for GHG reporting in Quebec (Talbot and Boiral 2013), Ontario,[19] and for third-party GHG reporting accreditors under federal legislation.[20]

TCFD Standards

In 2015, the Financial Stability Board (FSB) created the TCFD, intending to develop standards for disclosing climate-related financial risks and opportunities to lenders, insurers, investors and other stakeholders (FSB 2015). The core audiences for the task force's recommendations are banks, insurance companies, asset owners and managers. However, the TCFD also recognizes that several non-financial organizations support or have significant interactions with the financial sector. As such, the TCFD provides additional guidance for organizations related to the following groups: energy, transportation, materials and building, agriculture, and forest products (TCFD 2021).

Two years after its formation, the TCFD finalized and released its recommendations, which centred on four themes: governance, strategy, risk management, and metrics and targets. The recommendations are interrelated within a nested hierarchy (see Figure 1). The *metrics and targets* theme provided a base for the organization to undertake *risk management* and identify potential opportunities. This information supports the development of *strategies* to address those risks, which in turn inform the organization's *governance*. The TCFD's recommendations provide precise disclosure requirements that allow organizations to progressively embed climate-risk management into organizational planning and annual financial reporting (TCFD 2017).

Although the TCFD urges corporations to adopt climate-related financial disclosure, their proposed recommendations remain voluntary, and the organization does not evaluate or monitor their application (ibid.). Hence, the TCFD and the CDP collaborated to integrate the recommendations into CDP annual questionnaires.

19 See *Greenhouse Gas Emissions: Quantification, Reporting and Verification* (O Reg 390/18), online: <www.ontario.ca/laws/regulation/180390>.

20 See www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system/verification-guidance.html.

Figure 1: Core Elements of TCFD's Recommended Climate-Related Financial Disclosures

Source: Adapted from TCFD (2017, v).

In essence, the primary goal of the recommendations is to facilitate the sharing of information so that corporations, their stakeholders and the financial sector can make more informed decisions and ensure transparency. The recommendations provide an opportunity for an organization to consider the implication of climate change to its financial bottom line and offer clear guidance on disclosing climate-related information.[21]

SASB Standards

Recently, the SASB standards have been under the purview of the IFRS Foundation. As such, the SASB standards focus on providing organizations with a structured process for communicating the risks and opportunities associated with environmental, social and governance impacts that are significant to enterprise value.[22]

The SASB's standards have been developed for 11 sectors, covering 77 industries (SASB, n.d.). The standards for each sector have been tailored to provide specific guidance on what material issues to disclose and the types of metrics to use. Also, 89 percent of the industry-specific topics align with one or more SDGs (SASB 2020).

Twenty-six material topics are identified within the standards, but not every standard applies to all organizations. For example, product quality and safety, supply chain management, and material sourcing have been identified as material for organizations within the apparel, accessories and footwear industry.[23] Alternatively, the fuel cells and industrial batteries industry has material topics related to energy management, employee health and safety, product design and life-cycle management, and material sourcing.[24] It is important to note that organizations are free to conduct their own analyses to determine whether particular topics are material or have a significant impact on their enterprise value.

The standards use two sets of metrics to measure performance: accounting metrics and activity metrics. The accounting metrics outline the quantitative and qualitative metrics acceptable for measuring the performance of the material topics. In contrast, the activity metrics provide an overview of the organization's scale and aid in normalizing the accounting metrics (SASB 2018). These metrics and technical protocols allow organizations to communicate how their enterprise value is impacted by environmental, social and governance issues.

21 See www.fsb-tcfd.org/about/.

22 See www.sasb.org/standards/.

23 "Consumer Goods: Apparel, Accessories & Footwear" SASB standards, searchable at www.sasb.org/standards/materiality-finder/find/?industry%5b%5d=CG-AAandlang=en-us.

24 "Renewable Resources & Alternative Energy: Fuel cells & industrial batteries" SASB standards, searchable at www.sasb.org/standards/materiality-finder/find/?industry%5b%5d=RR-FCandlang=en-us.

The IFRS

The IFRS comprise the international accounting framework that traditionally focuses on financial accounting but has recently shifted to include considerations for sustainability reporting. These standards are informed by two boards: the IASB and the ISSB. The standards aim to develop a global approach to financial and sustainability reporting.[25] To date, these standards have been adopted by 167 jurisdictions,[26] which assists in creating consistent and comparable reports for stakeholders.

Although the IFRS Foundation is interested in incorporating sustainability reporting, the sustainability standards are still in development. However, a draft of the general sustainability standards has been released to the public.[27] The draft highlights the organization's intention to report on the sustainability-related risks and opportunities that impact enterprise value. The draft clarifies that these risks' and opportunities' impacts on the certainty and valuation of future cash flows are essential considerations for an enterprise value. Furthermore, the draft outlines several examples of the types of sustainability-related financial information that could be disclosed, including the organization's strategy for addressing sustainability-related risks and opportunities, the adverse impacts of the organization's actions on its reputation and performance, how the organization plans or has developed knowledge-based assets, and any other decisions that could impact the enterprise value that are not considered under the financial reporting standards (IFRS Foundation 2022a).

In essence, the IFRS approach to sustainability reporting follows the practice of integrating sustainability and financial reporting. However, the IFRS Foundation's sustainability standards are yet to be officially released, and it remains to be seen how the final version will compare to existing sustainability reporting standards.

25 See www.ifrs.org/about-us/who-we-are/.

26 See www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#analysis-of-use-of-ifrs-standards-around-the-world.

27 See www.ifrs.org/projects/work-plan/general-sustainability-related-disclosures/#current-stage.

Sustainability Reporting Frameworks

Although sustainability reporting is intended to communicate with a broad group of stakeholders, there have been efforts to modify sustainability reporting so that it aligns with the reporting norm accepted by financial investors or other related stakeholders. This section will examine three frameworks to provide insights into how financial stakeholders are being integrated into sustainability reporting.

The PRI

The PRI consist of six principles developed with a focus on financial investors and supported by the United Nations Environmental Programme. Investors can become signatories to the PRI to promote adopting the principles within the financial industry.[28] As such, the PRI integrate sustainability reporting through voluntary actions by financial stakeholders rather than by relying on government oversight or policies.

The principles seek to create long-term shared value by incorporating consideration for ESG factors into investors' decision making.[29] As seen in Box 1, these principles are designed to require active engagement and ascribe responsibilities to investors. The PRI outline several actions that can be taken to assist in implementing each principle and provide a foundational blueprint to provide additional guidance.

IIRC Principles

The IIRC promotes a reporting approach that combines sustainability and financial reporting in a streamlined approach for organizations and stakeholders. The combination of sustainability and financial reporting provides opportunities to improve organizational strategy, management and governance, leading to enhanced enterprise value. By participating in integrated reporting, organizations can demonstrate their long-term value creation strategy (Value Reporting Foundation 2021).

The IIRC framework consists of several requirements, all of which must be achieved for

28 See www.unpri.org/about-us/about-the-pri.

29 See www.unpri.org/about-us/what-are-the-principles-for-responsible-investment.

Box 1: The Six PRI

1. "We will incorporate ESG issues into investment analysis and decision-making processes."
2. "We will be active owners and incorporate ESG issues into our ownership policies and practices."
3. "We will seek appropriate disclosure on ESG issues by the entities in which we invest."
4. "We will promote acceptance and implementation of the Principles within the investment industry."
5. "We will work together to enhance our effectiveness in implementing the Principles."
6. "We will each report on our activities and progress towards implementing the Principles."

Source: "Signatories' commitment," www.unpri.org/about-us/what-are-the-principles-for-responsible-investment.

the report to be considered an integrated report.[30] As part of the requirements, the organization must disclose material topics that positively or negatively impact value creation. Furthermore, an organization should report on material issues that influence its competitive advantage but not communicate that information in a manner that could result in a competitive loss. The reports should be reliable and consistent to give stakeholders confidence in the organization's reporting practices. Benchmarking and statistical standardization are important since these processes could help improve the comparability of integrated reports (ibid.).

In summary, the IIRC framework combines traditional financial reporting with sustainability reporting to communicate sustainability information pertinent to firm value creation and competitive advantage. It is important to note that the IIRC has merged with the SASB and formed the Value Reporting Foundation, which consolidated with the IFRS as of August 2022 (IIRC 2022).

EFRAG

In 2001, EFRAG was formed to represent European interests and provide the European Commission with technical expertise in developing reporting standards.[31] EFRAG is a hierarchical organization with a general assembly comprised of all EFRAG members (for example, European nations, non-governmental organizations and stakeholder organizations), an administrative board and two thematic boards. The first thematic board addresses financial reporting, which seeks to provide technical insights on developing IFRS standards. The second thematic board focuses on sustainability reporting and assists in developing reporting standards for the European Union.[32] Each thematic board contains working groups that develop draft standards or reports based on the working group members' technical expertise.[33]

Due to its connectivity with several influential organizations (i.e., the IFRS Foundation and the European Commission), EFRAG's work on sustainability standards could potentially influence sustainability reporting practices globally.

Comparison of the Standards and Frameworks

The standards and frameworks discussed here have been developed independently but intersect in several ways. This section examines three commonalities to provide insights into the connections among the standards and frameworks.

First, many standards and frameworks (i.e., SASB, IIRC, PRI, IFRS, TCFD) are primarily orientated toward financial stakeholders (for example, investors, underwriters and so forth), with broader stakeholders being secondary. The others (i.e., GRI, CDP, EFRAG) have a stronger focus on balancing their appeal to all stakeholders, including financial stakeholders, the broader consumer market and public stakeholders. The focus on financial stakeholders is not surprising

30 See www.integratedreporting.org/FAQS/.

31 See www.efrag.org/About/Facts.

32 See www.efrag.org/About/Governance.

33 See www.efrag.org/About/Governance/46/EFRAG-Sustainability-Reporting-Technical-Expert-Group-EFRAG-SR-TEG; www.efrag.org/About/Governance/1/EFRAG-Financial-Reporting-Technical-Expert-Group-EFRAG-FR-TEG.

given that organizations have traditionally structured their sustainability reports to appeal to this group of stakeholders (Spence 2009), which could result in skepticism by other stakeholder groups (O'Dwyer, Unerman and Hession 2005).

Second, apart from those of the TCFD and the CDP, the standards and frameworks (i.e., SASB, GRI, IFRS, EFRAG, PRI, IIRC) adopt a broader framing that allows for consideration of social, environmental and economic or ESG parameters. This broader scope seeks to generate a more comprehensive or holistic sustainability reporting (GRI 2022) that also meets the information of stakeholders.[34] For additional context, the TCFD and the CDP adopt a scope that focuses on organizations' environmental and climatic impacts to provide more nuanced insights on specified topical areas.[35]

Finally, materiality definitions used by some of the standards and frameworks (for example, IIRC, SASB, TCFD, IFRS) include specific considerations for enterprise value or financial performance, referred to as *financial materiality*. This view is contrasted by materiality perspectives that consider the broader social and environmental implications, such as GRI's *double materiality* concept (Adams et al. 2021), which will be discussed in more detail later.

The interpretation of materiality is essential because it can influence the information shared with stakeholders (Mio, Fasan and Costantini 2020). The material importance of the information can vary from one stakeholder group to another (Reimsbach et al. 2020). As such, a materiality perspective that favours financial performance would lead to the sharing of information that is only relevant to financial evaluations or related decision making[36] and might be preferred by financial stakeholder groups (ibid.). On the other hand, the double materiality interpretation could result in generating shared value or mutual benefits for the organization *and* society (Busco et al. 2020; Font, Guix and Bonilla-Priego 2016), which might be of more interest to environmental non-governmental organizations (O'Dwyer, Unerman and Hession 2005). These similarities and differences in the definitions of materiality echo the pattern of similarities found among the primary stakeholders discussed previously.

To conclude, each of the standards and frameworks examined in this section has a unique approach to guiding sustainability reporting. Nevertheless, these standards and frameworks share some commonalities that could allow them to complement one another. Some have preferences for financial stakeholders and financial performance, whereas others seek to provide insights for a broad range of stakeholders.

Mandatory Sustainability Reporting

Corporate sustainability reporting has typically been seen as a voluntary activity providing organizations with the freedom to choose the most appropriate reporting framework or frameworks and to communicate their sustainability efforts as they see fit (ElAlfy, Weber and Geobey 2021). However, some governance bodies (for example, national governments, standard-setting organizations and so forth) have elected to implement mandatory reporting of non-financial information within their jurisdictions. Adopting mandatory reporting might expose firms to new regulations and resource requirements. Therefore, it is crucial to understand how mandatory reporting and standardization might interact, particularly considering the recent changes to the European Union's Directive 2014/95/EU (Biondi, Dumay and Monciardini 2020), which will be discussed in more detail later in this section. This section reviews current mandatory reporting practices and explores the rationale for mandatory reporting using examples from different jurisdictions.

Mandatory reporting should provide direction regarding corporate sustainability disclosure to assist in transparency, reliability and support for global sustainability goals (Christensen, Hail and Leuz 2021; Gerwing, Kajüter and Wirth 2022). Corporations subject to mandatory reporting may be expected to disclose information such as corporate social responsibility (CSR) operations and environmental protection measures (Arena, Liong and Vourvachis 2018; Liu, Failler and Chen 2021).

34 See www.unpri.org/about-us/what-are-the-principles-for-responsible-investment.

35 See www.cdp.net/en/guidance; www.fsb-tcfd.org/about/.

36 See International Federation of Accountants and IIRC (2022) and the SASB's "Materiality Finder" at www.sasb.org/standards/materiality-finder/?lang=en-us.

The use of sustainability reporting could assist in reducing information asymmetries for external stakeholders and the public (Christensen, Hail and Leuz 2021; Lee and Yeo 2016; Wachira, Berndt and Romero 2020). Mandatory reporting could appeal to governance bodies because of the benefits it provides to market actors (for example, investors and insurers) and global initiatives (for example, the Principles of the UN Global Compact or the SDGs). Some studies have found that the establishment of mandatory reporting resulted in an increased quality in sustainability disclosure and firm valuation (Loza Adaui 2020), while others found that the quality of reports did not increase with the addition of mandatory reporting (Mion and Loza Adaui 2019). These conflicting findings suggest that the impacts of mandatory reporting on corporations need to be explored in more detail before widespread adoption.[37]

The application of mandatory reporting typically takes the form of soft governance, that is, it adopts a governance mechanism that does not impose strict legal constraints or prescribe specific activities (Hess 2007; Jackson et al. 2020). Alternatively, hard governance represents mechanisms, such as command-and-control policies, that impose strict legal constraints to manage or limit specific activities, goods or services within the jurisdiction (Howlett, Ramesh and Perl 2009). Policies using a soft governance approach may not be legally binding but, depending on their application, might limit corporate activities. As one example, in South Africa, companies cannot be listed on the Johannesburg Stock Exchange without providing an integrated report (Wachira, Berndt and Romero 2020), a requirement that is based on non-binding guidelines set out in a government report (Herbert and Graham 2021). If a company does not comply with the reporting requirements, its capital-raising activities become more limited since it cannot access the stock exchange. This example demonstrates how governance over sustainability could occur indirectly. Consequently, a benefit of a soft approach is its ability to promote the adoption of specific processes or actions by corporations (Jackson et al. 2020) without fully compromising the freedom or autonomy of the corporations or other stakeholders (Hess 2014). Therefore, soft laws can achieve social interventions without governance bodies having direct corporate oversight or directly interfering in free market economies.

Beyond the example from South Africa, soft approaches to mandatory reporting can be seen in other geopolitical jurisdictions. A few supranational and national-level examples illustrate how mandatory reporting and governance approaches can vary.

At the supranational level, the European Union has implemented Directive 2014/95/EU that established requirements for companies with 500 or more employees to disclose non-financial information related to social and environmental impacts, human rights and treatment of employees, and preventative measures regarding anti-corruption and bribery, along with information about the diversity of the companies' boards.[38] This directive provides corporations with direction on what to report, but it does not specify a reporting methodology or standard to use.[39] As a result, companies can use any of the previously discussed reporting frameworks or develop their own approach to disclosing the required information.

Directive 2014/95/EU allows member states to expand on the minimum requirements of the directive within their corporate reporting legislation. For instance, Germany has gone beyond the directive's requirements by assigning corporate governance boards the responsibility to audit the final report.[40] The governance boards can also request external assurance for the report.[41] However, Directive 2014/95/EU has not resulted in improved reporting quality, and the European Union has adopted a proposal that would amend parts of it.[42]

37 Other emerging reporting taxonomies might highlight novel insights into the conflicting findings noted by previous researchers.

38 EC, *Communication from the Commission — Guidelines on non-financial reporting (methodology for reporting non-financial information)*, [2017] OJ, C 215, online: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017XC0705(01)>.

39 Ibid.

40 *Stock Corporation Act of 6 September 1965 (Federal Law Gazette I, p. 1089), as last amended by Article 7 of the Act of 7 August 2021 (Federal Law Gazette I p. 3311)*, 2017, s 171, online: <www.gesetze-im-internet.de/englisch_aktg/englisch_aktg.html#p0930>.

41 Ibid., s 11.

42 EC, *Proposal for a directive of the European Parliament and of the Council — Amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting*, COM/2021/189 final, online: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0189> [*Corporate sustainability reporting*].

The proposal would expand the scope of the reporting requirements to include any company listed on a regulated market (for example, a stock exchange); this does not apply to micro-enterprises.[43] The proposal would require companies to provide a more detailed final report with mandatory auditing and assurance for the consolidated annual sustainability report.[44] Organizations would also be required to adhere to the principles of double materiality, discussed in "The Materiality Dilemma" below.[45] Nevertheless, these proposed amendments signal a possible shift from the soft approach used in Directive 2014/95/EU toward a harder approach to regulating sustainability reporting within the European Union.

Examples of mandatory reporting can also be found in several other geopolitical jurisdictions, such as Peru and Malaysia. In Peru, the government established legislation that requires sustainability reporting by companies on the Lima Stock Exchange (Bolsa de Valores de Lima) (Loza Adaui 2020). Similar to the EU directive, companies listed on the Alternative Stock Market (Mercado Alternativo de Valores), which caters to small and medium-sized companies, would be exempt from this legislation. This policy does provide opportunities for companies to withhold disclosing information if they can explain reasons for doing so.[46] This type of clause is commonly referred to as "comply or explain" (Loza Adaui 2020; van der Lugt, van de Wijs and Petrovics 2020). Companies are required to complete an evaluation or questionnaire that asks for disclosure of information about their activities or actions related to the use of reporting standards (for example, GRI, SASB, TCFD, and so forth), environmental impacts (such as GHG emissions, water consumption and waste management, among others), and social impacts (for example, employee or worker rights, engagement with society, supplier and customer relationships, and so forth). The evaluation must be followed by a detailed discussion of the activities taken to address the topics listed in the previous section.[47]

43 Ibid.

44 Ibid.

45 Ibid.

46 *Resolución SMV No. 033-2015-SMV/01*, 2015, arts 4, viz 1, online: <www.gob.pe/institucion/smv/normas-legales/3947586-033-2015>.

47 Ibid., art 1.

The ability for companies to exclude information from the evaluation form suggests that this might be an attempt to embed soft approaches that allow companies to adapt the reporting methodology to suit their capabilities. The legislation also exhibits a hard approach since it sets strict requirements for eligible companies to complete the evaluation and subsequent detailed discussion. As such, the Peruvian methodology provides valuable insights into combining soft and hard approaches for mandatory reporting.

In Malaysia, companies that wish to be listed on Bursa Malaysia Securities Berhad's main market must provide a sustainability statement within their annual reports (Bursa Malaysia Securities Berhad 2023, 16). Bursa Malaysia Securities Berhad has established specific rulings that require disclosure of companies' material economic, environmental and social information so that risks and opportunities associated with the company can be known (ibid., 49). Companies must ensure that they explain how materiality is determined, along with the measures, actions and performance metrics related to their management of material sustainability topics (Bursa Malaysia Securities Berhad 2022, 5). The rulings do not list any specific details on what topics or issues (for example, GHG emissions, water consumption, community investment, and so forth) the company must report. Instead, Bursa Malaysia Securities Berhad provides a stand-alone guide, called the *Sustainability Reporting Guide*, to help companies navigate the exchange's disclosure requirements and to demonstrate how sustainability could provide additional corporate value (Bursa Malaysia Securities Berhad 2018). The GRI methodology inspired the guidelines, but the exchange does not specify if existing reporting frameworks are necessary (ibid., Bursa Malaysia Securities Berhad 2022, 5–6).

Unlike the Lima Stock Exchange example, the requirements defined by Bursa Malaysia Securities Berhad represent a soft approach to mandatory reporting since companies are provided leeway to disclose what they determine to be material. Additional evidence for a soft approach can be seen in the *Sustainability Reporting Guide*, whereby the wording within the document is carefully chosen to ensure that corporate autonomy is maintained. Overall, the Bursa Malaysia Securities Berhad example suggests that

exchanges could be effective governance tools to facilitate the adoption of mandatory reporting.

The above discussion has provided insights into how mandatory reporting can guide sustainability disclosure within geopolitical jurisdictions or exchange markets. Some existing approaches, such as the EU directive and rulings from Bursa Malaysia, utilize a soft governance approach that provides corporations with more autonomy over how and what they report. Alternatively, a hybrid approach that uses both soft and hard governance might be viable since it allows for flexibility in disclosing information, recognizing that companies are unique and have different resource capabilities, costs and stakeholder needs. The examples explored in this section suggest that there is no unified approach to mandatory reporting policies. Nevertheless, using a hybrid governance approach, mandatory reporting could support standardization efforts by providing a mechanism to facilitate reporting in companies that currently do not participate voluntarily.

The Materiality Dilemma

As seen in the previous section regarding sustainability reporting standards and frameworks, materiality has been an important consideration in selecting and communicating sustainability-related topics. This section will first examine the origins and interpretations of materiality before looking at some of the challenges associated with the current approach to utilizing materiality in sustainability reporting.

The concept of materiality has roots in British and American jurisprudence, whereby information or facts are considered material because such knowledge would influence the judgment of a prudent investor (Chewning and Higgs 2002). As such, materiality delineates the relevance of information on the basis of whether it is needed for stakeholders to make informed decisions or assessments of the company. This concept has become embedded in financial accounting and corporate finance statements because of the legal duty imposed on corporations and a desire to protect investors (Jebe 2019). Investors' interest in ESG performance and the growing CSR demands from other stakeholders have prompted the concept of materiality to extend from strictly reporting on financial information to the idea of double materiality. Double materiality focuses on disclosing financial and non-financial information (Adams et al. 2021; Font, Guix and Bonilla-Priego 2016; van Duuren, Plantinga and Scholtens 2016). Although double materiality has been discussed by the SASB and the GRI (Jørgensen, Mjøs and Pedersen 2022), multiple interpretations of materiality are still used and influence corporate sustainability reporting.[48]

The type of information shared with stakeholders may vary depending on the interpretation used in a selected reporting framework. For example, the SASB interprets materiality from a financial impact perspective, whereby sustainability-related information or topics are considered material if they significantly impact the company's financial performance (Calace 2020). This interpretation may result in relevant information for financial investors or other economic stakeholders. Alternatively, the GRI interprets materiality as information that considerably influences stakeholders' decision-making processes or as any topic that reflects the corporation's significant impacts on the environment, economy and society.[49] Moreover, the GRI explicitly states that materiality is not solely based on financial implications. As such, "topics cannot be deprioritized on the basis of not being considered financially material by the organization."[50] This interpretation would promote disclosure relevant to financial and social stakeholders (for example, the general public). Although these definitions provide relevant information to stakeholders, the above insights suggest that the value of corporate sustainability reporting might be limited to a smaller group of stakeholders if a company relies on only one reporting framework.

Chiaro Mio, Marco Fasan and Antonio Costantini (2020) shed light on the influence of materiality interpretations on sustainability disclosure.

48 Some experts hold differing opinions on the value of multiple interpretations of materiality. However, as this paper will explain later, standardized corporate sustainability reporting should only adopt a double materiality perspective. Double materiality provides consideration for all three dimensions of sustainability (for example, social, economic and environmental). Other interpretations, such as financial materiality, focus on a single dimension that could result in a less detailed report because the focus is too narrow.

49 See www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/.

50 See "GRI 1: Foundation 2021," 9, downloadable at www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/.

After conducting a content analysis of corporate documents, they found that the different interpretations of materiality would influence the ranking or relevance of identified material topics (ibid.). For example, responsible business management was the most relevant topic under the integrated reporting lens, while the same topic ranked eleventh under the sustainability reporting lens. These findings suggest that the parallel interpretations of materiality result in different preferences for material topics, seemingly appealing to various stakeholder groups. Corporate sustainability reporting could be simplified if only one definition of materiality existed. However, the diversity in interpretations highlights the intricate relationship between corporation disclosure and stakeholder decision making. The recent collaboration between the SASB and the GRI (GRI and SASB 2021) indicates that these interpretations are not rivals but similar approaches to addressing different stakeholder interests.

Although corporations may adhere to the same reporting framework, the degree to which materiality is comprehensively disclosed may vary. As Bianca Alves Almeida Machado, Lívia Cristina Pinto Dias and Alberto Fonseca (2021) noted, approximately 22 percent of the 140 reports examined did not fully disclose all six materiality indicators. These reports were completed using the GRI framework and GRI's Materiality Disclosure Service (ibid.), which reviews organizations' sustainability reports, ensuring that disclosure requirements are clearly articulated (GRI ASEAN 2022). These results are significant because, even though each of the reports underwent GRI's Materiality Disclosure Service, the quality of the information was not reviewed by GRI (Machado, Dias and Fonseca 2021). Similarly, Johannes Slacik and Dorothea Greiling (2019) examined the transparency of the information within reports completed using the GRI framework and found that only 51.2 percent of reports were transparent. The reports did not adequately communicate information about stakeholder engagement, the clarity of the material aspects or insights about materiality approaches. These findings suggest that an agreed-upon reporting framework may result in varying levels of transparency and approaches to conveying information to stakeholders.

A further challenge is ensuring that sustainability information is relevant to stakeholders' decision making, given the lack of consensus on the definition of materiality (Font, Guix and Bonilla-Priego 2016; Reimsbach et al. 2020). For instance, Xavier Font, Mireia Guix and Ma Jesús Bonilla-Priego (2016) found that consumers had more interest than internal managers and other stakeholder groups in social issues. Daniel Reimsbach, Frank Schiemann, Rüdiger Hahn and Eric Schmiedchen (2020) indicated that potential employees valued the selected non-financial topics of energy and biodiversity more highly than did the capital market stakeholders. Ideally, sustainability reports would try to balance the material interests of the key stakeholders.

However, providing relevant information to stakeholders becomes more complicated due to the potential for materiality disclosure to be misused for impression management (Ferrero-Ferrero, León and Muñox-Torres 2021; Zharfpeykan 2021). As well, the lack of transparency regarding the selection of material topics and stakeholder engagement (Beske, Haustein and Lorson 2020; Machado, Dias and Fonseca 2021; Slacik and Greiling 2019) could result in misinformed or unjustified conclusions (Jørgensen, Mjøs and Pedersen 2022).

In summary, materiality is a vital component of sustainability reporting because the specific interpretation of materiality utilized could influence the type of information disclosure. This section has also highlighted several challenges associated with materiality that could substantially impact the sustainability reporting process.[51]

51 Software, reporting service agencies and other communications firms have the potential to provide avenues to facilitate standardization through their applications of best practices and commonly used language. These potential avenues are beyond the scope of this paper. Further discussion on these topics is encouraged.

Standardizing Sustainability Reporting: Implications and Challenges

The interest in standardizing sustainability reporting has arisen from a desire to improve the quality of reporting,[52] as well as its consistency and comparability (IFRS Foundation 2021). This interest appears to have influenced the consolidation of the SASB standards and the IIRC framework under the IFRS umbrella (IFRS Foundation 2022b), and led to the proposal of new reporting standards within the European Union.[53] These actions signal a shift from a decentralized governance approach toward a more centralized governance style. Although governance bodies like the IFRS Foundation and the European Union are facilitating such a shift, there needs to be special consideration given to how the current approaches to mandatory reporting and materiality might impact a standardized reporting framework.

Mandatory reporting can facilitate the standardization process of sustainability reporting (Christensen, Hail and Leuz 2021) since the organization would be obligated to adhere to reporting practices. The reliance on a soft governance approach for mandatory reporting can allow companies to decide the scope of their reporting (Hess 2014), which might limit the comprehensiveness of their disclosures (Mion and Loza Adaui 2019). The application of mandatory reporting appears counterintuitive, given the degree of autonomy corporations have under a soft governance approach and the use of the "comply or explain" practice in some jurisdictions. If sustainability reporting is to be standardized, this tendency for mandatory reporting policies to allow organizations to exclude themselves from disclosing sustainability information must be addressed.[54]

Furthermore, care must be taken to ensure that efforts to standardize reporting do not inadvertently reinforce an ideology that is too narrowly focused on financial performance or caters to financial stakeholders. The IFRS' financial reporting standards are already mandated in 87 percent of the jurisdictions that are committed to or recognize them as the global standards (IFRS Foundation 2022c). It will be no surprise if the IFRS sustainability standards receive a similar adoption pattern. As noted by Carol A. Adams and Subhash Abhayawansa (2022), the current efforts by the IFRS Foundation to create sustainability reporting standards that complement their financial standards are somewhat misconstrued, because the new standards would still build on the organizations' existing preferences for financial performance and financial stakeholders. A narrowly defined approach to sustainability reporting might become the global norm if policy-setting agencies (for example, national governments) do not consider the predispositions of the standards they are planning to mandate.

As for materiality, several standards and frameworks (for example, IIRC, SASB, TCFD and IFRS) seek to define materiality from a financially rational perspective. Such a perspective does not align with the intentions of sustainable development (Puroila and Mäkelä 2019). The purpose of sustainability reporting is to communicate the positive and negative implications of non-financial (i.e., social and environmental) performance to stakeholders (ElAlfy, Weber and Geobey 2021; Herzig and Schaltegger 2006) along with considerations for the economic implications of the organization's actions (Setia, Abhayawansa and Joshi 2022). Sustainable development provides a framework for understanding the social, economic and environmental implications of society and corporations (Gibson 2006; Giddings, Hopwood and O'Brien 2002). However, financial materiality caters to the economic aspects of sustainable

52 *Corporate sustainability reporting*, *supra* note 42.

53 Ibid.

54 Admittedly, any serious exclusions or omissions of information might be caught by stakeholders in their review of corporate disclosures. However, with the exception of auditors, most stakeholders are not subject matter experts. As such, the onus of assuring the validity of information or identifying information omissions should not be the responsibility of all stakeholders. Therefore, regulative authorities (for example, governments, standard setters, and so forth) must ensure that their policies prevent the downloading of such responsibilities to all stakeholders.

development, thereby providing little consideration for social and environmental impacts that are not directly linked to economic gains or losses (Afolabi, Ram and Rimmel 2022; Maechler 2022). Thus, any discussion on standardizing sustainability reporting will be incomplete if consideration is not given to the underlying definition of materiality adopted. If an incompatible definition of materiality is adopted, then the goals of sustainable development will be undermined by the standardized reporting framework.

Moreover, a standardized sustainability reporting framework should provide reliable information for many stakeholders. However, organizations could exploit materiality definitions to favour a particular stakeholder group (Beske, Haustein and Lorson 2020; Spence 2009) or to garner a more favourable opinion from stakeholders (Ferrero-Ferrero, León and Muñoz-Torres 2021). When organizations are perceived to participate in such activities, the reliability of their sustainability reporting is questioned by stakeholders (O'Dwyer, Unerman and Hession 2005), and the content of their reports might not reflect the information needs of stakeholders (Bradford et al. 2017). Therefore, a standardized reporting framework should contemplate how materiality could impact the disclosure of sustainability-related information.

In summary, to ensure that a standardized sustainability reporting framework aligns with the fundamental principles of sustainable development, the use of materiality and the application of mandatory reporting must be carefully considered. Any rushed attempt to standardize sustainability reporting might result in the undermining of sustainable development by promoting a perspective that inherently favours one dimension of sustainability (i.e., economic impacts). Therefore, the following recommendations are presented to address the above concerns.[55]

55 The SDGs provide a useful foundation for materiality assessments. However, the SDGs are only active until 2030, making the future of SDG-based reporting frameworks unknown. Thus, there is a need for a reporting framework that could operate beyond 2030. Such a reporting framework might require a broader understanding of materiality and reporting metrics.

Conclusion and Policy Recommendations

Given the recent collaborative efforts between five predominant standard setters, the future of corporate sustainability reporting might lead to a more coordinated and standardized process. The previous section outlined several challenges for standardizing corporate sustainability that rise from the current approaches to mandating reporting and applying the concept of materiality. In light of those challenges, this paper poses two recommendations to promote dialogue and innovation for future standardization efforts.

Recommendation 1: Establish mandatory minimum reporting requirements based on insights from existing industry-specific reporting standards.

By setting minimum reporting requirements, a standardized framework could avoid some of the challenges seen in existing practices that rely on the "comply or explain" practice. The "comply or explain" practice is utilized because disclosure criteria might not apply to all companies (van der Lugt, van de Wijs and Petrovics 2020). It might be challenging to compare corporate reports because companies can decide to include or exclude different information. Additionally, the application of mandatory reporting has seen variability in the quality of sustainability disclosures (Loza Adaui 2020; Mion and Loza Adaui 2019). As such, mandating minimum reporting requirements might reduce companies' chances of excluding information from their disclosures, which could improve the comparability of the reports.

Further, the creation of minimum reporting requirements should also be developed based on insights from existing frameworks, mainly the GRI's industry standards and the SASB's sector standards. Applying industry-specific reporting requirements could ensure that companies within the same industries disclose the same information. Integrating industry-specific requirements could tailor the minimum requirements to the reporting needs or capabilities of companies operating within the same industry. As such, the reliance on the "comply or explain" practice could be minimized since most companies' minimum reporting requirements would be relevant.

Recommendation 2: Embed double materiality into minimum reporting requirements to ensure alignment between corporate reporting and sustainable development.

As highlighted earlier, corporate sustainability reporting aims to provide insights into the company's operations to develop legitimacy and maintain the corporation's reputation (Herzig and Schaltegger 2006). The reliance on financial materiality could result in limited consideration for non-financial information valued by stakeholders (Adams and Abhayawansa 2022), thereby impacting the ability of stakeholders to determine the legitimacy and overall reputation of the company. On the other hand, double materiality considers the economic, social and ecological aspects of a company's operations (Adams et al. 2021; Font, Guix and Bonilla-Priego 2016; van Duuren, Plantinga and Scholtens 2016).

If double materiality was integrated into the minimum reporting requirements, then the reporting needs of both financial and non-financial stakeholders could be met. This might mean additional consideration is needed to ensure that the minimum requirements include topics relevant to most companies in an industry and their stakeholder groups.

Moreover, sustainable development seeks to understand the interconnections between corporations and society through complex yet integrated sustainability lenses, namely, economic, social and environmental impacts (Gibson 2006; Giddings, Hopwood and O'Brien 2002). Double materiality and sustainable development align because both concepts focus on comprehensive economic, social and environmental information. Integrating double materiality into the mandatory minimum reporting requirements would ensure that a standardized framework provides the information needed to understand the broader sustainability impacts of corporations.

We conclude that standardized corporate sustainability reporting is on its way to being implemented globally. Regulators and stakeholders demand reliable, valid and comparable information about the sustainability performance of companies. However, the challenges with mandatory reporting and materiality highlighted in this paper should be considered in future discussions around standardizing corporate sustainability reporting.

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