IMPLEMENTATION OF IFRS SUSTAINABILITY DISCLOSURE STANDARDS INTO INTEGRATED REPORTING: A JOURNEY OF FUTURE-ORIENTED COMPANIES

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Abstract
The adoption of the sustainability disclosure standards is a major step forward in improving transparency and comparability of sustainability information, within reporting. This paper aims to analyze the extent to which these standards can be applied in integrated reporting and produce a coherent story about sustainability disclosures. The research uses a documentary and comparative analysis of the International Financial Reporting Standards (IFRS) S1 and S2 with the Integrated Reporting Framework, based on a qualitative approach to analyze the integration between these two standards about integrated reporting principles. The outcomes show that integrating IFRS S1 and S2 will provide an overarching concept for reporting sustainability risks and opportunities which aligns reporting with sustainability goals. Based on these findings, the article argues that incorporating these standards not only improve investor and stakeholder decision-making but also helps companies ensure their strategies are in line with sustainable development objectives. This paper adds to a growing body of literature on the diffusion of sustainability reporting and has implications for researchers examining financial vs. non-financial disclosure as well as managers, regulators and others that care about high-quality financial and non-financial information.

Keywords
Integrated reporting, IFRS S1, IFRS S2, Sustainability.

JEL Classification
M41, Q56

Introduction

Integrated reporting has been discussed for more than a decade, being a topic that has gathered both praise and criticism. It is certain that the initiative to present more information for greater transparency is an important step toward sustainable

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development. Companies no longer measure their performance solely in financial terms but also in non-financial terms, paying attention to the role their activities play in a complex, interconnected environment. Presenting how the six capitals (financial, manufactured, intellectual, human, social and relational, and natural) are perpetuated, transformed, or depleted helps companies assess their risks and opportunities, allowing strategies and business models to be adapted to maximize outcomes. De Villiers and Dimes (2022), for example, believe that integrated reporting has the potential to create a bridge between investor-oriented reports and reports that directly address environmental issues. Contrary to this view, some critics argue that integrated reporting is removed from sustainability aspects and the vast informational requirements of different stakeholders (Flower, 2020).

Despite the existence of divergent opinions regarding the relevance and usefulness of integrated reporting, it has developed over the years, with more and more companies voluntarily implementing the integrated report in their annual corporate presentations (Cooray and Dissanayake, 2023). With this popularization came the need to standardize and regulate reporting practices in a unified manner, considering the diversity of different frameworks that, instead of helping companies, only increased confusion among enterprises (Tsagas and De Villiers, 2020). In this regard, the IFRS Foundation initially unified the International Integrated Reporting Council (IIRC) and Sustainability Accounting Standards Board (SASB) to create the Value Reporting Foundation (VRF), and in 2022, VRF was consolidated with the Climate Disclosure Standards Board (CDSB), thus forming the International Sustainability Standards Board (ISSB). The ISSB's goal was to create a reporting framework that mirrors the format of IFRS financial reporting standards. Shortly after, the ISSB initiated the process of gathering feedback from experts in the field, such as regulatory bodies, representatives of large corporations, and stakeholders, regarding aspects that should be modified or included in the sustainability standards prototype.

The exposure drafts of IFRS S1 "*General Requirements for Disclosure of Sustainability-related Financial Information*" and IFRS S2 "*Climate-related Disclosures*" were published in March 2022, including the general requirements for reporting sustainability information deemed important for users, as well as specific requirements for reporting risks and opportunities related to climate change. During the consultation process, 735 comments were received from companies across various industries, regulatory institutions, representatives of academia, and others. After reviewing all the comments, in June 2023, the ISSB released the final versions of IFRS S1 and S2 to provide a relevant and reliable basis for presenting sustainability information to stakeholders.

In an ever-changing environment that is becoming increasingly complex, standards are what can help companies approach more transparent reporting that meets public expectations. Thus, the *purpose of this article* is to present how IFRS S1 and IFRS S2 standards can be incorporated into integrated reporting, providing a more structured and credible perspective on sustainability disclosures in reports. To achieve the established goal, a series of *objectives* have been outlined, including defining and describing the components of IFRS S1 and IFRS S2, formulating the potential expectations of companies regarding sustainability standards, analyzing the similarities and differences between the provisions of the sustainability standards and those of the Integrated Reporting Framework, explaining the applicability of sustainability standards within the integrated report, developing conclusions regarding the implementation of sustainability standards.

Global corporate reporting is constantly evolving; thus, this study is relevant in developing perspectives on integrating sustainability standards into the integrated report. The implementation of IFRS S1 and IFRS S2 standards can support businesses in aligning their strategies with sustainable development goals and, consequently, with sustainable economic growth. Furthermore, this paper contributes to disseminating knowledge regarding the importance of adopting sustainability standards while also presenting the benefits associated with their implementation in the integrated report. The article can be useful for a wide audience, including researchers interested in the evolution of financial and non-financial reporting standards, managers and executives of companies from various industries and sizes, regulatory and standard-setting authorities, and others.

The paper begins with a literature review on sustainability reporting and the rationale for standardized approaches, followed by a documentary and comparative analysis of IFRS standards alongside the Integrated Reporting Framework. The results and discussion sections evaluate the standards' applicability, focusing on enhancing transparency and comparability of sustainability-related disclosures.

1. Review of the scientific literature

With the emergence of demands for the disclosure of relevant and comparable information on the quantified impact of sustainability-related risks and opportunities, the IFRS Foundation, specifically the ISSB, formulated the sustainability standards IFRS S1 "*General Requirements for Disclosure of Sustainability-related Financial Information*" and IFRS S2 "*Climate-related Disclosures*" which represent a major step in the standardization of sustainability reporting at a global level.

The IFRS S1 standard addresses the general requirements for presenting sustainability information, with its main objective being to provide a unified framework through which entities can report sustainability-related risks and opportunities that may have a financial impact on a company's performance (IFRS Foundation, 2022a). The applicability of the standard extends to entities of various sizes and industries, with the provisions focusing on criteria that are important for the decisions of investors and stakeholders. The purpose of IFRS S1 is to promote transparency and comparability of information presented in reports to support investors in assessing long-term risks and opportunities (IFRS Foundation, 2022a).

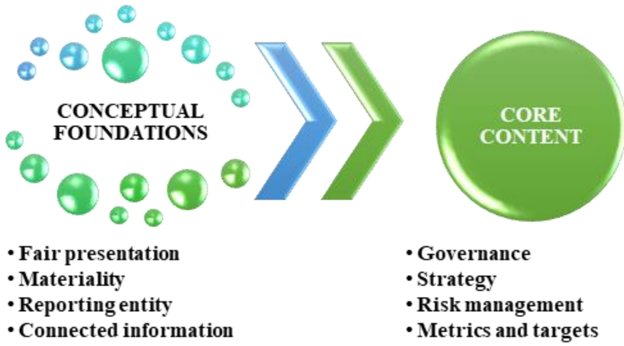

Figure no. 1: The fundamentals and core content of IFRS S1

Source: Prepared by the author based on IFRS Foundation (2022a).

Within the report, companies must present a complete and relevant set of information about sustainability-related risks and opportunities that could influence the entity's future outlook. An equally important aspect that companies need to consider is the need to synchronize this information with the reporting period of the related financial statements. At the same time, the company must ensure that the reported elements and information are presented in a connected manner to facilitate the analysis process for users.

Regarding the content of the report, businesses must provide detailed information on several key aspects, such as governance, which includes the processes, controls, and procedures applied to oversee and manage sustainability-related risks and opportunities (IFRS Foundation, 2022a). The strategy adopted by the entity to address these risks and opportunities should also be covered. Another important element is risk management, meaning the processes through which the entity identifies, assesses, prioritizes, and monitors sustainability risks. Furthermore, companies must reflect their metrics and targets, providing a clear picture of their performance and progress in relation to the risks and opportunities, including goals set by regulations or self-imposed objectives.

The IFRS S2 standard, being aligned with the Task Force on Climate-related Financial Disclosures (TCFD), focuses on the reporting requirements for information regarding the impact of climate change on companies' financial performance, as well as the risks and opportunities related to the transition to reducing carbon emissions. In this way, the provisions of IFRS S2 help investors gain an overall understanding of the climate risks that companies face by establishing a connection between financial performance and environmental impact (IFRS Foundation, 2022b).

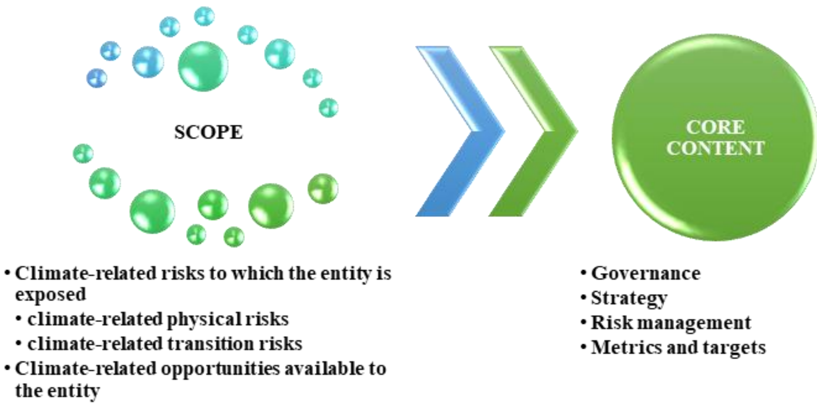

Figure no. 2: The scope and core content of IFRS S2

Source: Prepared by the author based on IFRS Foundation (2022b).

The scope of the IFRS S2 standard extends to the climate risks to which an entity is exposed, including physical risks associated with climate change and transition risks related to adapting to new requirements, as well as the climate opportunities available to the entity (IFRS Foundation, 2022b). However, those climate risks and opportunities that do not have a significant impact on the entity's outlook will not be reported by the company.

The purpose of presenting climate-related financial information is to provide users with a clear understanding of how the entity manages climate risks and opportunities through the governance processes and controls applied (IFRS Foundation, 2022b). It also aims to describe the management's strategy in addressing these risks and opportunities, offering insights into how they are integrated into the entity's strategic direction. Furthermore, disclosures regarding climate risk management allow a deeper understanding of the processes through which the entity identifies, assesses, and controls risks, highlighting how these are integrated into the overall risk management system. At the performance level, reporting on climate metrics and targets provides report users with a detailed view of the entity's progress in achieving established climate goals, thus highlighting its commitment and results in this area.

The IFRS S1 and S2 standards differ from sustainability reporting frameworks, such as the Global Reporting Initiative (GRI) and SASB, by emphasizing the financial relevance of sustainability information. While GRI focuses on the impact of organizational activities on society and the environment, and SASB on sector-specific standards, IFRS S1 and S2 are designed to meet the needs of investors and integrate sustainability information into traditional financial reporting. However, IFRS S1 and S2 are aligned with these frameworks, with many of the requirements stipulated in IFRS S2 being inspired by TCFD recommendations, which are themselves integrated into the SASB framework. Additionally, IFRS S1 encourages companies to use existing standards, such as GRI, as a reference point to disclose information that is financially relevant and meaningful.

Sustainability reporting, following the implementation of IFRS S1 and IFRS S2 standards, will undergo significant changes, considering the expectations for more comprehensive disclosures that fully present environmental, social, and governance (ESG) factors about investment decisions and organizational performance. Companies must be prepared to meet these expectations to remain competitive and protect and enhance their long-term value. With this transition, an increase in transparency is anticipated regarding how sustainability risks and opportunities impact companies' financial performance. Entities will need to strengthen more rigorous systems for collecting and presenting such data, ensuring that these disclosures are accurate, clear, and directly relevant to risk assessment over a specific time frame. These processes must be robust and allow for the collection of detailed information that can be reported by the standards.

Furthermore, entities will consider sustainability risks and opportunities to integrate them into strategic planning and operational decisions, which will help build a coherent and compelling mechanism for investors and stakeholders. Investors and other stakeholders expect increased transparency, a clear integration of sustainability into business strategies, and a proactive approach to managing climate and sustainability risks. Since IFRS S1 and S2 are aligned with other reporting frameworks, such as the TCFD recommendations and SASB standards, companies will tend to align their sustainability disclosures with global practices, facilitating comparability among companies at a global level.

2. Research methodology

The main purpose of the research is to identify how the new sustainability standards IFRS S1 and IFRS S2 align with the principles of integrated reporting and how they can be implemented within the integrated report presented by companies. To achieve this goal, a documentary and comparative analysis of IFRS S1 and S2 standards and the Integrated Reporting Framework was conducted, aiming to understand the applicability of the standards in the context of integrated reporting. At the same time, a qualitative approach was used to analyze how the requirements of IFRS S1 and S2 can be implemented in integrated reporting. The methodological framework allowed for a deeper understanding of how integrated reporting aligns with IFRS standards, highlighting best practices and potential challenges that companies may encounter in the process of presenting integrated reports in accordance with sustainability requirements.

3. Results and discussion

Disclosures on sustainability-related risks and opportunities and the importance of connected information required by IFRS S1 and IFRS S2 could be incorporated into an integrated report to provide report users with meaningful, comparable information, enabling them to make decisions about providing resources to the company.

Table no. 1. The terms used in the integrated reporting framework compared to the definition of terms in the IFRS S1 and IFRS S2 standards

Concept within the integrated reporting framework	**Definition provided in the Integrated Reporting Framework Glossary**	**The term (bolded) and the definition or description provided in IFRS S1 and IFRS S2**
Capitals	Stocks of value essential for the success of all entities, used as inputs in the business model and which can be enhanced, diminished, or transformed through the company's activities and outcomes. In the integrated reporting framework, capitals are classified as financial, manufactured, intellectual, human, social and relationship, and natural.	**The resources and relationships** on which an entity depends and which it affects through its activities and outcomes can take various forms, such as natural, manufactured, intellectual, human, social, or financial.
Providers of financial capital	Holders of equity and debt and others who provide financial capital, both existing and potential, including creditors and other lenders. This definition includes the ultimate beneficiaries of investments, collective asset owners, and asset or fund managers.	**Primary users of general-purpose financial reports (primary users) or users of general-purpose financial reports (users):** Existing and potential investors, creditors, and other lenders.
Those charged with governance	The person(s) or organization(s) (e.g., a board of directors or a corporate administrator) responsible for overseeing an organization’s strategic direction and its obligations regarding accountability and stewardship. In some organizations and jurisdictions, those charged with governance may include executive management.	**Governing body(ies)** (which may include a board, committee, or equivalent body charged with governance) **or individuals responsible for overseeing** sustainability/climate-related risks and opportunities.

Source: (IFRS Foundation, n.d.a)

Sustainability reports address a broad audience and communicate the impact of entities on the economy, environment, and society. The integrated report, on the other hand, explains to providers of financial capital how businesses create value in the short, medium, and long term. Integrated reporting was founded on the premise that traditional financial reporting provides an incomplete picture of a company's ability to create and preserve long-term value. Therefore, integrated reporting—like reports based on IFRS S1 and IFRS S2—reflects the influence of human, intellectual, manufactured, social and relational, and natural capital on the company. Some information typically found in a sustainability report may migrate to the integrated report, but only if the information is relevant to investors in providing insights into an entity's prospects.

Table no. 2. Comparisons between the purpose, audience, and scope of the integrated report and disclosures in accordance with IFRS S1 and IFRS S2

	Sustainability Disclosures in Accordance with IFRS S1 and IFRS S2	**Integrated Report**
Purpose	Providing information on an entity's sustainability/climate-related risks and opportunities that is useful to the primary users of financial reports in making decisions about providing resources to the entity.	To explain to providers of financial capital how the entity creates value over time.
Audience	Existing and potential investors, creditors, and other lenders.	Providers of financial capital.
Scope	Relevant information about sustainability/climate-related risks and opportunities that could affect the entity's cash flows, access to financing, or cost of capital in the short, medium, or long term (the entity's outlook).	Content elements: – Organizational overview and external environment – Governance – Business model – Risks and opportunities – Strategy and resource allocation – Performance – Outlook

Source: (IFRS Foundation, n.d.a)

In integrated reporting, the process of determining materiality focuses on value creation in the short, medium, and long term. Similarly to the disclosure requirements in IFRS S1, the duration of each time frame is defined by the company, considering the industry or sector, business and investment cycles, and strategies. The nature of the company's business model outcomes will also influence the time frame considered in this materiality determination process. For example, issues affecting natural or social and relational capitals may have a very long-term impact.

The time period considered in integrated reporting is usually longer than in traditional financial reporting, such as in financial statements. A company should particularly consider issues that, if left unchecked, could become more damaging or difficult to manage in the long term.

Table no. 3. Mapping the Applicability of the Integrated Reporting Framework in Correlation with IFRS S1 Requirements

IFRS S1 Core Content	Governance	Business model	Risks and opportunities	Strategy and resource allocation	Performance
Governance	Paragraph: 27(a) – 27(a)(v) 27(b) – 27(b)(ii)		Paragraph: 27(a)(v)		
Strategy		Paragraph: 29(b) 32 32(b)	Paragraph: 29(a) 30, 30(a) – 30(c) 33 33(a)	Paragraph: 29(d) 32(a) 33(b) 34(a) – 34(b) 35(a) – 35(d)	Paragraph: 29(d) 32(a) 33(b) 34(a) – 34(b) 35(a) – 35(d)
Risk management			Paragraph: 44(a) – 44(c)		
Metrics and targets			Paragraph: 51 51(b) – 51(g)	Paragraph: 51 51(b) – 51(g)	Paragraph: 46 – 46(b)(ii) 48 50 – 50(d) 51(a)

Source: (IFRS Foundation, n.d.b)

Governance – Governance – Risks and opportunities. For an integrated report to be considered in compliance with the IFRS S1 standard, it must include information about the governance structure, which may take the form of a board, committee, or another body responsible for governance, as well as individuals responsible for monitoring sustainability-related risks and opportunities. The competent body or individuals must be clearly identified, with terms of reference, mandates, roles, and applicable policies described. Additionally, entities should ensure that the involved body or individuals possess the necessary competencies and skills or have the potential to develop them to fulfil their role (IFRS Foundation, 2022a). Equally important is detailing the manner and frequency of sharing relevant information with the responsible bodies or individuals. Furthermore, sustainability risks and opportunities must be integrated into the enterprise's strategy oversight system and strategic decision-making process, reflecting in the integrated report the trade-offs associated with this implementation. The compliance of the integrated report with IFRS S1 will also be evaluated based on the sustainability objectives presented, which must be monitored dynamically, along with testing the relevance of the performance indicators attached to the objectives. Additionally, the integrated report will reflect the entity's management involvement in the mechanism for monitoring sustainability risks and opportunities through the implementation of appropriate controls and procedures in this regard (IFRS Foundation, 2022a).

Strategy – Business model. Sustainability risks and opportunities can have an actual and anticipated impact on the company's business model and value chain. This effect must be clearly described in the integrated report so that report users can understand the extent to which sustainability risks and opportunities may influence the entity's normal operations and value chain. A clear description involves providing details about geographical locations, operational points, types of affected assets, and other relevant details to construct an objective picture of how sustainability influences the entity's structure and activities (IFRS Foundation, 2022a) .

Strategy – Risks and opportunities. Entities should include in the integrated report an analysis of sustainability risks and opportunities that could influence their future outlook, providing a timeline for when visible effects might occur on the company. At the same time, the report should contain an explanation of the time horizons used and a correlation with the strategic planning adopted in the decision-making process (IFRS Foundation, 2022a). Companies must present how they will respond to sustainability risks and opportunities, integrating them into their strategy and decision-making process to ensure their efficient management, with the aim of highlighting the overall impact on the entity's decisions and strategic direction.

Strategy – Strategy and resource allocation – Performance. The integrated report presented by companies, in the context of compliance with IFRS S1, is recommended to provide details about the influence of sustainability risks and opportunities on their strategy and decision-making process, referring to the progress made compared to previously presented plans through both qualitative and quantitative information. At the same time, for the current reporting period, the impact of these risks and opportunities on the entity's financial position, performance, and cash flows must be quantified (IFRS Foundation, 2022a). Furthermore, it is necessary to outline the anticipated effects in the short, medium, and long term, explaining how risks and opportunities are included in financial planning and what significant adjustments in the carrying values of assets and liabilities can be projected for the next period. Additionally, companies should highlight the implications of the strategy for managing sustainability-related risks and opportunities in relation to future changes in their financial position, by including investment plans, divestitures, innovation, and other initiatives, as well as the funding sources for implementing the strategy (IFRS Foundation, 2022a).

Risk management – Risks and opportunities. The processes and policies used for identifying, assessing, prioritizing, and monitoring sustainability-related risks are an important point for reflection in the integrated report, including details about the inputs and parameters used, such as data sources and the scope of operations covered by these processes. Considering both qualitative and quantitative metrics, companies must provide a clear picture of the scenario analysis in identifying sustainability risks and how the nature, probability, and magnitude of these risks are assessed, distinguishing sustainability risks from other types of risks (IFRS Foundation, 2022a). Additionally, the report should specify any changes applied to the risk identification and assessment processes compared to previous reporting periods.

Metrics and targets – Risks and opportunities – Strategy and resource allocation. The integrated report, presented in accordance with IFRS S1, must disclose information about the objectives set to monitor progress in achieving the company's strategic, quantitative, or qualitative goals, as well as any objectives imposed by legislation, specifying the period for which they are applicable, the reference period for quantifying progress, and any interim targets set, if they existed. Moreover, it is necessary for businesses to provide an analysis of performance for each objective, evaluating the trends and changes that have impacted performance (IFRS Foundation, 2022a). If any objectives have been modified, a detailed explanation of the causes that led to these changes is required.

Metrics and targets – Performance. Companies aiming to comply with the IFRS S1 standard and present integrated reports need to provide detailed information for each sustainability risk and opportunity that could influence their future outlook. This should include parameters established by a relevant IFRS standard for presenting sustainability data, as well as those used by the entity to assess and monitor the identified risks and opportunities, describing the entity's performance regarding these risks and opportunities, and including progress made toward set objectives and those imposed by legislation (IFRS Foundation, 2022a). Special attention should be given to the relevance of the parameters used (absolute indicator, qualitative indicator, or comparative reporting) for the business model, activities, and specific characteristics of the industry in which the company operates, with additional explanations required for parameters developed internally by the company. If a parameter has been validated by a third party, the entity must specify who performed the validation, as well as the method used to calculate the parameter, including input data, method limitations, and specific assumptions used (IFRS Foundation, 2022a). Regarding strategic objectives, the integrated report should include detailed information about the parameters used to establish them and monitor progress, ensuring that each objective is correlated with the corresponding parameters for evaluating the progress made.

Table no. 4. Analysis of the Applicability of the Integrated Reporting Framework in the Context of IFRS S2

IFRS S2 Core Content	Governance	Business model	Risks and opportunities	Strategy and resource allocation	Performance
Governance	Paragraph: 6(a) 6(a)(i) – 6(b)(ii)		Paragraph: 6(a)(v)		
Strategy		Paragraph: 9(b) 13 13(b)	Paragraph: 10 10(a) – 10(d) 14 – 14(a)(v)	Paragraph: 9(a) 9(c) 9(e) 14(b) 14(c) 22 – 22(c)(iii)	Paragraph: 9(d) 13(a) 14(c) 15(a) – 16(d)
Risk management			Paragraph: 25(a) – 25(c)		
Metrics and targets	Paragraph: 28(c) 29(b) – 29(g) 29(g)(i) – 29(g)(ii)	Paragraph: 28(a) – 28(b) 29(a) – 29(a)(i)	Paragraph: 28(c) 29(b) – 29(g) 33(a) – 35	Paragraph: 33(a) – 35	Paragraph: 29(a)(ii) – 29(vi)(2) 29(b) – 29(g) 33(a) – 35 36 – 36(e)(iv)

Source: (IFRS Foundation, n.d.b)

Governance – Governance – Risks and opportunities. In accordance with IFRS S2, the report presented by companies must provide detailed information about the body or individual responsible for governance in overseeing climate-related risks and opportunities. This section should include how responsibilities for climate risks are reflected in terms of reference, mandates, and applicable policies, as well as a description of how the necessary competencies to manage these risks and opportunities are assessed (IFRS Foundation, 2022b). There must be a system in place to understand the method and frequency of transmitting relevant information to the bodies or individuals responsible for overseeing these risks and how these aspects are considered in the context of the entity's overall strategy oversight and strategic decisions. At the same time, the integrated report must specify how trade-offs associated with climate risks and opportunities are considered and how objectives in this area are set, with the progress of these objectives being dynamically monitored. Additionally, companies are required to provide details about the role of management in the governance processes applied for overseeing and handling climate risks, including any delegation of responsibilities to certain leadership positions or management committees, as well as information about controls and procedures that support risk oversight and integration with other internal functions (IFRS Foundation, 2022b).

Strategy – Business model. As with compliance with the IFRS S1 standard, the report under IFRS S2 must provide details about the current and future impact of climate-related risks and opportunities on the business model and value chain. This will enable users of the integrated reports to understand where climate risks and opportunities are concentrated within the entity's operations, providing details about the specific areas where they influence activity, thereby creating a general context of how climate factors affect the entity's business structure and strategy (IFRS Foundation, 2022b).

Strategy – Risks and opportunities. The integrated report, aligned with IFRS S2, needs to present the influence of climate-related risks and opportunities concerning the company's outlook by detailing the effects on the entity's future and classifying the risks as either physical risks or transition risks related to climate change. At the same time, it is necessary to specify the time horizons (short, medium, or long term) in which these risks and opportunities are expected to manifest and to explain how these periods are incorporated into the context of strategic planning.

Companies are encouraged to disclose in the integrated report the influence of climate-related risks and opportunities on their strategy and decision-making process, explaining how the company has responded to climate challenges and how they plan to manage them in the future (IFRS Foundation, 2022b). Additionally, entities should outline their climate objectives, including those imposed by legislative regulations, and provide information about the plans to achieve them, which include details about current and anticipated changes in the business model, such as resource allocation to manage climate risks, changes in operations involving intensive use of carbon, energy, or water, as well as modifications in demand and the supply chain (IFRS Foundation, 2022b). It is necessary for businesses to describe their adaptation and mitigation efforts, both direct, through changes in production processes, relocation of facilities, and workforce adjustment, and indirect, through collaboration with customers and suppliers. Furthermore, the company should have a transition plan in place, which would include details about the assumptions and dependencies underlying this plan.

Strategy – Strategy and resource allocation. In accordance with IFRS S2, companies must delve into how resources are allocated for climate transition activities and provide clear (quantitative and qualitative) data on the progress made in relation to previously approved plans. For the purpose of assessing climate resilience, entities will apply climate scenario analysis, which should be proportionate to the specific conditions of the enterprise, thus providing an overview of the short-, medium-, and long-term effects on the strategy and business model (IFRS Foundation, 2022b). Considering significant uncertainties and the ability to adjust or adapt the strategy to cope with risks and seize opportunities, companies must explain how they would respond to the implications identified through climate scenario analysis.

The assessment included in the integrated report must encompass information about the entity's resource accessibility and flexibility, the ability to redistribute and adjust existing assets, as well as the impact of current and planned investments in mitigating climate risks. To evaluate transition and physical risks, entities must provide details about the applied climate scenarios, including their sources, diversity, and relevance in the context of the analysis. Additionally, an explanation is needed for choosing a particular scenario, outlining the key assumptions used, such as climate policies, macroeconomic trends, weather patterns, future technologies, and infrastructure (IFRS Foundation, 2022b). Furthermore, specifying the time horizon and operational scope of the assessment should not be overlooked.

Strategy – Performance. Within the "Performance" section of the integrated report, companies will reflect on the impact of climate-related risks and opportunities on the financial position, performance, and cash flows for the current period, presenting the anticipated short-, medium-, and long-term effects on the business model and value chain, as well as explaining how climate risks and opportunities are included in the entity's financial planning. The disclosed information should include quantitative and qualitative data in relation to plans established in previous periods (IFRS Foundation, 2022b). Additionally, risks and opportunities that could lead to significant adjustments in the carrying values of assets and liabilities in the next period must be identified, and forecasts of how the financial position will change dynamically, considering the climate risk management strategy, should be presented.

Based on the climate risk and opportunity management strategy, companies need to have a clear vision of how they assess the evolution of financial performance and cash flows, which may include revenues from products and services adapted to a low-carbon economy, additional costs caused by the physical deterioration of assets due to climate events, or expenses associated with adapting to and mitigating the effects of climate change (IFRS Foundation, 2022b).

Risk management – Risks and opportunities. The integrated report, in accordance with the provisions of IFRS S2, must disclose comprehensive data about the processes and policies it uses to identify, assess, prioritize, and monitor risks associated with climate change, such as data sources and the scope of operations covered by these processes. Companies must detail the process of using scenario analysis to identify climate risks and explain how they determine the nature, probability, and magnitude of the impact of these risks, taking into account both qualitative and quantitative factors (IFRS Foundation, 2022b).

Additionally, it is necessary to provide information on how the organization prioritizes climate-related risks compared to other categories of risks, how these risks are monitored over time, and whether the procedures used have been adjusted compared to the previous period (IFRS Foundation, 2022b). Furthermore, it is essential to explain how all these mechanisms, both for risks and opportunities, are incorporated into the company's overall risk management structure, providing a comprehensive view of how it addresses climate challenges and the associated new opportunities.

Metrics and targets – Governance. Within companies that have an integrated reporting system and are aiming to align with the IFRS S2 standard, there must be a set of parameters applied by management or the governing body to assess progress in achieving the established objectives and those imposed by legislation to reduce or adapt to climate risks or to capitalize on climate opportunities (IFRS Foundation, 2022b). Additionally, entities must provide detailed information about transition risks associated with climate change, such as the quantity and proportion of assets or operations exposed to these risks, alongside the physical risks generated by climate change and the opportunities for alignment with environmental objectives, including the quantity and proportion of assets or operations that benefit from these opportunities.

In the integrated report, it is also necessary to present information about the allocation of capital for managing climate-related risks and opportunities, including capital expenditures, financing, or investments, and to explain how internal carbon pricing is used in decision-making processes, as well as the assessment of costs associated with greenhouse gas emissions. A crucial aspect is reflecting the extent to which climate aspects are considered in the remuneration structure of management and specifying the percentage correlated with these considerations (IFRS Foundation, 2022b).

Metrics and targets – Business model. The integrated report presented by companies, in the "Business Model" section, must include data on cross-sectoral and industry-specific parameters that reflect the particularities of the business model and the activities carried out in the field (IFRS Foundation, 2022b). Thus, details about the indicators used at the intersectoral level and how these parameters are adapted to meet the specific requirements of the sector in which the entity operates should be provided here.

In the same section, companies must provide objective data on the total greenhouse gas emissions recorded during the reporting period, expressed in metric tonnes of CO_2 equivalent (IFRS Foundation, 2022b). These emissions should be categorized to provide an overview of their impact, including direct emissions generated by the entity, indirect emissions associated with energy consumption, as well as additional indirect emissions resulting from other activities in the entity's value chain.

Metrics and targets – Risks and opportunities – Strategy and resource allocation. Entities must include in the integrated report information about the quantitative and qualitative objectives (including those mandated by legislation) established to monitor progress in aspects related to the reduction of greenhouse gas emissions (IFRS Foundation, 2022b). Each objective must be explained using the parameters that define it, its purpose, scope, validity period, and calculation basis. At the same time, it is essential to present intermediate milestones, specifying absolute or intensity-based objectives, and to explain how international climate change agreements have influenced their definition.

In the integrated report, the company's approach to setting and reviewing objectives will be outlined, as well as how the progress made is monitored, including the validation of objectives, review processes, and parameters used by a third party. In cases where objectives are subject to modifications, these must be accompanied by explanations of the adjustments made. Additionally, entities must provide an analysis of performance in relation to climate objectives, highlighting trends and changes that have emerged in this context (IFRS Foundation, 2022b).

Metrics and targets – Performance. Companies must provide detailed information regarding the relevant parameters associated with greenhouse gas emissions, which can be established in accordance with the Greenhouse Gas Protocol, except in cases where an authority imposes a different evaluation method (IFRS Foundation, 2022b). For greenhouse gas emissions from Scope 1 and 2, entities must provide details about the emissions, dividing them between the consolidated accounting group and other entities in which they have invested. Regarding Scope 2, information about location-based emissions should also be presented, along with details about relevant contractual instruments that influence users' understanding (IFRS Foundation, 2022b). For Scope 3, the entity will detail the categories included in the emissions assessment, referring to international standards, and will provide additional information about emissions associated with its investments, especially if it engages in banking, insurance, or asset management activities.

Conclusions

By incorporating IFRS S1 and IFRS S2 sustainability disclosure standards into integrated reporting, companies take an important step forward in corporate reporting where sustainability information is concerned. This research examines the embedding of these standards in an integrated report, so as to improve sustainable disclosures quality, transparency and comparability. The findings provide evidence that integrating IFRS S1 and S2 with the already established framework ensures a holistic view of corporate performance, encompassing not only financial outcomes but also non-financial aspects such as ESG factors.

The detailed examination of aligning IFRS S1 and S2 with the principles of integrated reporting is a key contribution of this paper. The integration of these standards, as outlined, provides companies with a framework to report on sustainability-related risks and opportunities as part of mainstream financial reporting, thereby enhancing transparency and credibility (Tolkach, 2023). This process helps investors, stakeholders, and decision-makers assess a company's long-term value creation and its ability to address sustainability challenges.

The research paper highlights the importance of companies moving beyond outdated financial indicators and incorporating disclosures, which describe their performance in terms of broader worldwide impact on the planet and society. IFRS S1 and S2 can give companies a clear direction in aligning their strategy with SDGs, and address better to the stakeholder questions for greater transparency and accountability (Gözde and İrem, 2023).

Similarly, the adoption of IFRS S1 and S2 aids in harmonizing sustainability reporting practices on a global scale. This enables companies and industry sectors to be compared more effectively, serving as a consistent assessment framework that complements other reporting formats. As demonstrated in sustainable reporting efforts, this comparability is crucial for helping investors and other stakeholders’ access consistent and reliable information to understand an entity's measurable sustainability performance and its ability to create long-term value.

The IFRS S1 and S2 standards provide a structured format for disclosing information on various aspects of governance, strategy, risk management, and performance. Together, these guidelines allow organizations to present a more comprehensive sustainability narrative. Beyond merely avoiding greenwashing, this approach integrates sustainability disclosure into the business model itself, paving the way for a sustainable future.

Future research might use SDSs to evaluate stakeholders' decision-making and how they potentially foster sustainability performance and long-term value generation. At the same time, researchers could evaluate the impact of the implementation of sustainability standards on the performance and transparency of companies, having the chance to analyze the first reporting practices according to the new standards.

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