

Evaluation Of Readiness for Implementing IFRS S1 and S2 in Accordance with the Sustainable Stock Exchange Guidelines: A Case Study at PT X

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ABSTRACT

The launch of the new sustainability standards by the ISSB, namely IFRS S1 and S2, marks a major advancement in sustainability reporting, enabling companies to use a unified standard for sustainability information. These standards differ from Global Reporting Initiative (GRI) Standards by focusing on sustainability and climate-related risks and opportunities, which creates information gaps in current company disclosures. This study evaluates readiness for implementing these standards. Using value chain theory and the resource-based view (RBV), the study maps all business process activities. A qualitative case study involving interviews with company management, sustainability reports, and internal documents applies data triangulation to identify disclosure gaps. Findings reveal many supporting activities remain undisclosed, and sustainability disclosures do not yet align with GRI due to limited understanding of the company's value chain. Gap analysis with IFRS S1 and S2 shows the largest discrepancies in metrics and targets related to sustainability risks, opportunities, and climate change. Operational activities outside the value chain—such as IT maintenance, business meetings, and travel—are notably excluded. Emissions and energy use from these activities remain uncalculated and undisclosed. The study concludes that enhancing sustainability disclosures requires accurately mapping the value chain and incorporating all operational activities from upstream to downstream. This comprehensive approach will enable successful implementation of IFRS S1 and S2 at the company.

KEYWORDS

IFRS S1, IFRS S2, Resources, Sustainability Report, Value Chain



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INTRODUCTION

In the contemporary business landscape, sustainability refers to the integration of environmental, social, and governance (ESG) considerations into corporate strategy and operations to ensure long-term value creation while minimizing negative impacts on society and the environment (Adams et al., 2022). Companies, as business actors, play a crucial role in driving the economy (Ehret & Wirtz, 2015) Creating and capturing value in the service economy: The crucial role of business services in driving innovation and growth. Business activities can increase people's incomes by providing jobs and increasing purchasing power, thus enabling a country's economy to grow (Priyatna & Suryadi, 2025). Companies' business practices are inextricably linked to sustainability (van Bommel, 2018). All business activities impact the surrounding environment, making it crucial to have a sustainability strategy (Baumgartner & Rauter, 2017). A company's sustainability strategy can reduce negative environmental impacts, such as excessive resource use, carbon emissions, greenhouse gases, and other pollution (Yang et al., 2023). Currently, companies are implementing environmental, social, and governance (ESG) principles to conduct responsible and sustainable business activities (Dathe, Helmold, Dathe, & Dathe, 2024). These responsible and sustainable business

activities are then disclosed by companies in a sustainability report (Ehnert, Parsa, Roper, Wagner, & Muller-Camen, 2016).

The Global Reporting Initiative (GRI) and the Sustainable Development Goals (SDGs) are the most widely used standards and frameworks for preparing sustainability reports (PricewaterhouseCoopers, 2023). PwC revealed that by 2022, 80% of companies in Indonesia used the GRI standard and 86% of companies used the SDG framework for their sustainability reports (PwC, 2023). The GRI standards are voluntary reporting frameworks that provide recommendations for sustainability disclosures, whereas IFRS S1 and IFRS S2 are mandatory standards designed for integration with financial reporting (ISSB, 2023). This transition from recommendatory to mandatory standards presents practical challenges for companies, including the need to restructure reporting systems, train personnel in new disclosure requirements, integrate sustainability data with financial information, and potentially increase resource allocation for compliance (Kampanje, 2023). Furthermore, companies must adapt from a stakeholder-oriented reporting approach (GRI) to an investor-focused disclosure framework (IFRS S1 and IFRS S2), which emphasizes financially material sustainability information (Molnár, Lukács, & Tóth, 2025).

The Financial Services Authority (Otoritas Jasa Keuangan, OJK) has issued SEOJK-16/2021 concerning the presentation of annual reports, supporting SEOJK-51/2017 concerning the presentation of sustainability reports as the basis for annual reports prepared by companies. Companies have an obligation not only to generate profits but also to maintain environmental sustainability and be aware of social issues, where all of this information will be reflected in the sustainability reports of issuers and public companies (OJK, 2021). On June 26, 2023, the ISSB (the International Sustainability Standards Board) launched two global standards related to sustainability reporting: IFRS S1—General Requirements for Disclosure of Sustainability-Related Financial Information—and IFRS S2—Climate-Related Disclosures. These standards were issued by the ISSB as the basis for presenting sustainability reports (van Wyk & Els, 2023).

The ISSB (2023) states that IFRS S1 and IFRS S2 are designed to ensure companies present sustainability-related information alongside financial statements in a single, comprehensive report. Sustainability reports not only outline a company's ESG implementation but also serve as a routine "health" tool to assess a company's capabilities and weaknesses in improving sustainability to provide beneficial feedback to stakeholders and the business (PwC, 2023). Based on the launch of the standard, the Chairman of the Ikatan Akuntan Indonesia (IAI) National Board, Ardan Adiperdana, explained that the Indonesian Institute of Accountants (IAI) supports the issuance of the new standard and urges all stakeholders in Indonesia to prepare for the adoption of IFRS S1 and IFRS S2 (IAI, 2023). According to the IAI press release (2023), the International Federation of Accountants (IFAC) encourages all professional accountants worldwide to implement the ISSB standard so that high-quality sustainability reporting can be realized.

The widely used GRI is a recommendation, not a standard, for preparing sustainability reports (Safari & Areeb, 2020). The publication of IFRS S1 and IFRS S2 represents a significant advancement in the presentation of sustainability reports, enabling them to use a common "language" worldwide (Wahyuni, 2025). The implementation of IFRS S1 and IFRS S2 can produce consistent and comparable sustainability information and facilitate accurate

and verifiable reporting of corporate sustainability material (IAI, 2023). Emmanuel Faber, chairman of the ISSB, stated that IFRS S1 and IFRS S2 are the result of over 18 months of hard work to deliver a set of standards for implementation in the global capital market regarding sustainability disclosure (IAI, 2023). The use of a common "language" aims to reduce information asymmetry for report users (Espejo & Daciê, 2016). The IAI, as a professional organization that oversees professional accountants throughout Indonesia, has established a Dewan Standar Keberlanjutan (DSK IAI) to prepare for the adoption of the ISSB standards (IAI, 2023). Based on this, it is undeniable that all organizations issuing sustainability reports in Indonesia will eventually transition to using the new standards, IFRS S1 and IFRS S2.

The company being studied in this case is PT X, a self-regulatory organization (SRO) that serves as a pillar in the Indonesian capital market (Ridwan, 2017). As a self-regulatory organization (SRO), PT X holds a unique and critical position in Indonesia's capital market ecosystem (Demarco, 2024). Unlike other market participants, PT X functions as the sole clearing house responsible for transaction settlement, risk management, and collateral management for all stock exchange transactions in Indonesia (Nursanti, 2019). This monopolistic regulatory function makes PT X significantly more important than other market actors because its operational integrity, transparency, and sustainability practices directly affect the entire capital market's stability and credibility (Francioni & Schwartz, 2017). As an SRO, PT X not only facilitates market transactions but also establishes and enforces rules that govern market participants, making its sustainability disclosures particularly crucial for maintaining stakeholder confidence and ensuring market resilience (Lund & Pollman, 2022).

The United Nations Environment Programme (2015) states that capital markets must pursue objectives that are in the public interest, have fair, structured, and neutral objectives to protect all members of the public. This demonstrates that all capital markets worldwide are involved with sustainability issues to varying degrees (UNEP, 2015). SROs have three primary missions in operating capital markets: providing investor protection, managing markets in an organized and efficient manner, and facilitating financial information with the aim of providing material information related to trade (Lund & Pollman, 2022). Therefore, it is crucial for PT X to provide quality financial information. Currently, PT X publishes a separate annual report and sustainability report annually. PT X, as the sole organization that carries out stock transaction clearing, is required to have integrity and transparency in carrying out its duties, so it is important for PT X to be able to provide accurate and adequate information to stakeholders such as the OJK, Bank Indonesia, and the public. The sustainability report published by PT X currently refers to SEOJK-51/2017 and SEOJK-16/2021 and refers to GRI. Reflecting on the seriousness of the IAI to form the DSK IAI in order to adopt IFRS S1 and IFRS S2 in Indonesia, PT X as a regulator has an urgency to change the reference for preparing sustainability reports based on GRI to IFRS S1 and IFRS S2. Therefore, an evaluation of the readiness for implementing IFRS S1 and IFRS S2—Evaluasi Kesiapan Penerapan IFRS S1 dan S2 Sesuai Pedoman Sustainable Stock Exchange: Studi Kasus pada PT X—needs to be carried out by PT X.

Several previous studies have been conducted related to the readiness for the implementation of IFRS S1 and IFRS S2. Research by Brian Phiri Kampanje (2023) shows that a comprehensive approach and coordinated efforts from various stakeholders in the Malawian capital market are needed to comply with and meet the standards issued by the ISSB.

Kampanje (2023) also recommends that the accounting body in Malawi issue regulations regarding the implementation of IFRS S1 and IFRS S2 as a basis for implementation by companies in Malawi. Research conducted by Sinatra, Manik, and Firmansyah (2022) shows that the impact of IFRS adoption in Indonesia can have a positive impact on increasing the value relevance of accounting information. Research by Tuong Anh Vo (2023) shows that climate risk disclosures in companies listed on the US stock exchange experienced a downward trend from 2018 to 2020. The differences in climate perspectives across sectors and management strategies demonstrate the need for a comprehensive and forward-looking approach to address the diverse challenges faced related to climate risk (Vo, 2023).

This research differs from previous studies in several significant aspects. First, it focuses specifically on the capital market infrastructure sector in Indonesia, using PT X—the country's sole clearing house—as the research subject, a perspective that has not been explored in prior IFRS S1 and S2 readiness studies. Second, this study employs a comprehensive analytical framework combining value chain theory and resource-based view (RBV) to map operational activities and their sustainability implications, providing deeper insights into disclosure gaps. Third, unlike previous research that primarily examined general corporate readiness, this study specifically analyzes the transition challenges faced by a self-regulatory organization (SRO), whose sustainability practices have broader systemic implications for market stability and investor protection.

The primary objective of this research is to evaluate PT X's readiness to implement IFRS S1 and S2 standards by conducting a comprehensive gap analysis between current GRI-based sustainability disclosures and the requirements of the new standards. This research aims to: (1) map PT X's complete value chain and identify operational activities not currently disclosed in sustainability reports; (2) analyze existing disclosure gaps between current sustainability reporting practices and GRI standards; (3) assess the company's capability to meet IFRS S1 and S2 disclosure requirements, particularly in governance, strategy, risk management, and metrics and targets; and (4) provide actionable recommendations for enhancing sustainability disclosures to facilitate successful IFRS S1 and S2 adoption.

This research offers significant theoretical and practical contributions. Theoretically, it extends the application of value chain theory and RBV in sustainability reporting contexts, demonstrating how these frameworks can identify disclosure gaps in the capital market infrastructure sector. Practically, this study provides valuable insights for Indonesian capital market regulators, particularly SROs and listed companies, in preparing for the mandatory adoption of IFRS S1 and S2. The findings will assist policymakers in understanding the challenges faced by market infrastructure institutions and developing appropriate support mechanisms. Furthermore, this research contributes to the global discourse on sustainability reporting transition, offering an emerging market perspective that can inform international standard-setters about implementation challenges in developing economies. For PT X specifically, this study delivers a comprehensive roadmap for enhancing sustainability disclosure practices and building institutional capacity to meet evolving international sustainability reporting standards.

METHOD

This research employed a qualitative case study method to evaluate PT X's readiness to adopt IFRS S1 and S2. It analyzed the conformity of the company's published sustainability report with GRI standards to identify disclosure gaps. These gaps were explored through stakeholder influences, the company's value chain, and current resources, revealing ineffective factors. The analysis also assessed the company's ability to meet IFRS S1 and S2 disclosure requirements and generated recommendations for transitioning to the new standards.

The study utilized qualitative and quantitative data. Qualitative data included strategic plans, sustainability programs, and business development documents. Quantitative data comprised financial and non-financial information from annual reports, sustainability reports, budget projections, and governance-related stakeholder data. Primary data came from interviews with company personnel; secondary data from relevant document analysis.

The research process began with a literature review of books, journals, financial reports, sustainability reports, GRI standards, and IFRS S1 and S2. It drew on stakeholder theory, value-chain theory, and resource-based view (RBV) to build the framework. Interview questions were formulated based on this framework and problem statements. Primary data from interviews and secondary data were processed via triangulation, comparing value chain activities, resources, and GRI gap analyses against IFRS S1 and S2 requirements. This yielded recommendations for compliance.

RESULT AND DISCUSSION

Value Chain and Resource Analysis

PT X has a defined Value Chain, including Membership and Participation, Collateral Management, Risk Management, Clearing and Settlement Arrangement, Default Management, and Guarantee Fund Management. Based on an analysis of SOP documents and interviews, several defined value chain activities do not fully reflect the entire upstream-to-downstream process. The following supporting activities are not yet described in the value chain:

a. Procurement of Goods and Services

Procurement of goods and services is carried out by the General Affairs Unit (UUM Unit) to provide procurement services for all other work unit functions to meet the company's operational needs.

b. Information Technology Operations and Monitoring

One of the processes in Information Technology Operations and Monitoring is to ensure the normal operation of PT X's EAE and Non-EAE operations. This activity is expected to prevent abnormal events in PT X's operations from running smoothly and reduce the potential for operational disruptions. This is also supported by regular monitoring. Furthermore, PT X utilizes colocation services to maintain operational infrastructure 24/7.

c. Data Backup and Information Technology Maintenance

Data backups are performed for PT X's main operational systems, and server maintenance is performed regularly. These activities are also supported by colocation services for server rack rentals, cloud services, and 24-hour electricity and air conditioning to ensure data security and asset physical maintenance.

d. Clearing Member Capacity Building

Clearing Member Capacity Building is an annual gathering between PT X and its customers, namely Clearing Members. At this event, PT X hosts and conducts various activities such as team building, discussions, and city tours. This event is held annually to maintain good cooperation between PT X and its Clearing Members.

e. Customer Satisfaction Survey

The Customer Satisfaction Survey (CSS) is a feedback measurement activity to determine the level of customer satisfaction, particularly Clearing Members (AKs), with all of PT X's operational services and as an effort to improve the quality of clearing services and guarantee the settlement of Stock Exchange Transactions to the AKs. A customer satisfaction survey was conducted by PT X with its customers, namely Clearing Members, to follow up on valid suggestions and input received from Clearing Members.

f. Business Revenue Collection

Business revenue collection is carried out by the Finance Unit (KEU Unit) and ensures that clearing services and derivative guarantee funds are billed to the Exchange on time to avoid billing errors and late billing.

g. Public Training and In-House Training

The Human Resources Unit, as a form of human resource management, encourages employees to participate in training, whether publicly available or internally developed. This aims to improve the competency of employees and stakeholders, such as clearing members and business partners, in terms of operational understanding, risk management, regulations, and the use of the latest technology.

h. Business Travel

Business travel is travel out of town for specific purposes such as seminars, capacity building, joint activities with SROs, training, surveys and comparative studies, and other activities related to company operations. The HR Unit typically provides transportation and accommodation for these business trips for Directors, Commissioners, employees, and outsourced personnel.

1) PT X's Value Chain

Based on the description above, along with confirmation through interviews regarding the activities carried out by PT X within and outside the value chain, referring to Porter's theory, the company's value chain should look as follows:

Table 1. PT X's Value Chain Activities

Primary Activities	
Inbound Logistics	Equity Clearing Money Market and Foreign Exchange (PUVA) Clearing
Operations	Equity Clearing PUVA Clearing Cash and Securities Monitoring Information Technology (IT) Operations and Monitoring Risk Management Collateral Management
Outbound Logistics	Securities Transaction Settlement Report PUVA Transaction Settlement Report

Marketing and Sales	Market Development Business Meeting Implementation Business Revenue Collection Charging Fees for Collateral Management and Administration Services
Services	Clearing Member Capacity Building Customer Satisfaction Survey
Support Activities	
Procurement	Procurement of Goods and Services
Technology Development	Information Technology Operations and Monitoring Data Backup and Information Technology Maintenance
Human Resources Management	Public Training In-house Training Business Travel
Firm Infrastructure	Governance Corporate Strategy Development Market Development Research

The value chain established by the company differs from the results based on Porter's theory. Based on Table 1, several activities outside the value chain, such as revenue collection, customer satisfaction surveys, and information technology operations and monitoring, should be included in the company's value chain. Furthermore, supporting activities such as public training, in-house training, and business travel should also be included in the company's value chain. These activities are not reflected in the current value chain. This can lead to a gap in information disclosure in the sustainability report, as the company's current activities do not reflect upstream to downstream activities.

2) PT X's Resources

Based on interviews and referring to Barney's theory, the company's resources can be described as follows:

Table 2. PT X's Resources

PT X's Resources	
Valuable	The risk management system operated by PT X is valuable to market participants because it helps protect them from fluctuations and systemic risk. The Clearing System integrated with the Integrated Capital Market Network (JTPM) is valuable because it connects the entire network of capital market participants, namely IDX, PT X, KSEI, and Clearing Members in conducting exchange transactions. The human resources owned by PT X are valuable because the unique business processes in Indonesia and Information Technology with unique network systems require special expertise to build and maintain these networks.
Rare	An integrated and secure clearing system for securities transactions is rare and the only one in the Indonesian Capital Market. The human resources owned are difficult to obtain because special criteria are needed in HR recruitment, especially for business processes and information technology.
Imperfect Imitability	Automated stock clearing technology integrated with IDX, KSEI, and Clearing Members. Building to replicate this system is difficult and requires very large expertise and capital.
Substitutability	Integrated and secure clearing technology with international certification is difficult to replace because it requires special expertise and large capital to build the clearing network.

Source: processed by the author

“... we've always had to build our own systems and usually customize them. Now, if we want to move to Nasdaq, we have to first study the system network to ensure it's compatible with our assets here. If it's not compatible, we have to customize it as usual...” (Informant 1, 2024)

“... yes, that's why our recruitment process takes so long, even just one person for a staff position is quite difficult because the user requirements are specific, especially in the operational business sector...” (Informant 2, 2024)

According to interviews, technology and human resources are the company's core resources. The company's self-developed technological infrastructure and network support the smooth running of capital market transactions. Due to the unique nature of its business, human resources with specific skills and knowledge are needed to run the company's operations, both for core and support activities. However, based on interviews, the company has not fully utilized these resources in preparing its sustainability report. Technology has not been used to collect data related to sustainability disclosure. Resources specifically assigned to prepare sustainability reports exist, but sustainability knowledge is still insufficient to provide comprehensive sustainability disclosures.

Gap Analysis of Sustainability Reports with GRI Standards

The first step in identifying disclosure gaps is to conduct an analysis to identify aspects of the report that have not been disclosed based on the GRI standards already implemented by the Company. The analysis of sustainability reports with GRI standards is conducted to determine whether GRI standards that align with IFRS S1 and S2 have been met in the sustainability report. This analysis is limited to PT X's 2023 Sustainability Report. The results of this gap identification will provide a benchmark for assessing the adequacy of disclosures in accordance with IFRS S1 and S2. Based on the analysis of the company's Sustainability Report, the company has not fully disclosed several pieces of information in accordance with GRI standards that align with disclosures based on IFRS S1 and S2, as follows:

1. GRI 2-6: Activities, Value Chain, and Other Business Relationships

Based on the analysis, the company's GRI 2-6 supply chain disclosure is still limited, only outlining the number of local and international suppliers. A description of the relationships between the company and its suppliers has not been disclosed in the current sustainability report. Furthermore, the company has not disclosed its sustainability development strategy or negative impact mitigation strategy. Interviews revealed that the company engages in market development research activities that align with its strategy formulation. The results of this research would assist the PSR Unit in developing the company's strategic plan in carrying out its function as a clearing house. However, based on the analysis of the sustainability report, these research activities have not been disclosed in the company's value chain in accordance with GRI 2-6, and no sustainability-related strategy has been developed based on the research findings. GRI 2-6 disclosures related to the value chain should be included in IFRS S2 disclosures related to business model strategy and climate-impacted value chains. Furthermore, based on the value chain analysis conducted in Table 1, several impacted business operations

include market development business meetings, Clearing Member capacity building, procurement of goods and services, corporate strategy development, and market development research. Currently, the company lacks a sound asset management strategy related to climate risk for its assets, such as servers and networks that support clearing operations. Clearing Member business meetings and capacity building activities are also impacted because in these processes, the company engages in extensive bargaining and marketing related to capital market products. These two business processes can be a means of guiding Clearing Members to transact in sustainable products such as carbon market clearing. The risk arising from a lack of value chain disclosure can result in the company's strategy being less relevant or inconsistent with climate concerns and failing to recognize material climate risks that could impact the company's operations and value chain.

2. GRI 2-12: The Role of the Highest Governance Body in Overseeing Impact Management

Based on the sustainability report analysis, the company has not yet complied with GRI 2-12 disclosures related to the role of governance in managing impacts. The current sustainability report does not yet explain the role of the highest governance body and the role of senior executives in promoting sustainable development. The company has disclosed GRI 2-12 in the GRI Index, but this information is not found in the current Sustainability Report. This GRI 2-12 disclosure could be one of the pieces of information that fulfills IFRS S1 disclosures for governance aspects, specifically the disclosure of the governance body's responsibilities related to sustainability.

3. GRI 2-13: Delegation of Responsibility for Managing Impacts

The sustainability report analysis indicates that the company has not yet complied with the required information coverage under GRI 2-13. Similar to the GRI 2-12 disclosure, GRI 2-13 is listed in the GRI Index of the company's sustainability report, but this information cannot be found. Based on IFRS S1 disclosures, companies must also disclose at least information regarding management's role in managing and overseeing sustainability risks and opportunities. If GRI 2-13 standards are not met in the current sustainability report, the company has a gap in governance disclosures in accordance with IFRS S1.

4. GRI 2-22: Statement on Sustainable Development Strategy

The company's current sustainability report discloses three sustainability-related strategies, but the information provided does not sufficiently meet GRI 2-22 standards. The company's sustainability report does not contain statements regarding short-term, medium-term, and long-term strategies for managing the organization's impacts on the economy, the environment, and society, as well as all of the organization's business activities and relationships. Information disclosed under GRI 2-22 may be included in IFRS S1 disclosures related to sustainability strategies and decision-making.

5. GRI 2-25: Processes to Remediate Negative Impacts

The company's current sustainability report does not disclose processes to mitigate negative impacts caused by its operations. In its sustainability report, the company lists GRI 2-

25 disclosures in the GRI index, but analysis did not identify such information. The information disclosed in accordance with the GRI 2-25 standard focuses on the company's strategy for managing negative operational impacts, which aligns with one aspect of IFRS S1, namely decision-making strategies and the disclosure of strategies for sustainability impacts that affect the business model, value chain, financial position, financial performance, and cash flow.

6. GRI 302: Energy

The company has disclosed GRI 302, related to energy, in its current sustainability report. Based on the analysis, the company has provided sufficient information to disclose fuel and electricity consumption, but has not disclosed energy consumption outside the organization, such as server colocation activities. Furthermore, the company has not fully disclosed emission intensity for fuel and electricity, in accordance with GRI 302-3 regarding energy intensity. In its sustainability report, the company disclosed a reduction in electricity use in 2023 compared to 2022. However, the company stated that it does not yet have a specific strategy for reducing other emissions, such as fuel. Furthermore, the company should disclose the reduction in energy required to provide clearing services, such as electricity and fuel use. This GRI 305 disclosure aligns with, and the information can be used to disclose IFRS S1 related matrices and targets related to sustainability targets, such as fuel and electricity reduction.

7. GRI 305: Emissions

The company has disclosed GRI 302 emissions in its sustainability report, but not all scopes are covered. The current sustainability report only discloses Scope 1 Greenhouse Gas (GHG) emissions, namely direct GHG emissions. The company provides limited disclosure, and the company has not provided information on the sources of these emissions in accordance with the GRI 305-1 Direct GHG Emissions standard. Based on interviews, the company has not disclosed GRI 305-2 disclosures regarding indirect GHG emissions and GRI 305-3 other indirect GHG emissions, and has not been accounted for by the company. 2. There is information regarding GRI 305-2 and GRI 305-3 that companies should be able to disclose for upstream activities in the value chain, such as business travel, employee commuting, and assets leased to support company operations, such as collocation rentals. Disclosure of GRI 305 related to these emissions can be information that can meet the disclosure requirements of IFRS S2 regarding climate risks and opportunities.

Current corporate sustainability reports, prepared based on GRI standards, have several disclosure gaps. The lack of full implementation of GRI standards indicates significant gaps in the information required for IFRS S1 and S2 disclosures. Analysis reveals that several GRI standards, which contain similar disclosure elements to IFRS S1 and S2, remain largely unfulfilled by companies, despite having adopted these standards for several years. Interviews revealed that the preparation of Sustainability Reports, from the initial publication year through 2023, was outsourced to third parties, namely consultants. This has led to gaps in the information provided to consultants regarding the disclosed business operations. Information gaps can arise because management itself still lacks a thorough understanding of the company's upstream and downstream activities, resulting in many visible activities not being covered in the 2023 Sustainability Report.

"Yes, in our current report, there are still gaps, especially when compared to companies that have already implemented it. Even compared to the stock exchange, we're still far behind..." (Informant 1, 2024)

"...from the start, we submitted the report to a consultant for preparation, but matters such as determining material topics and content were discussed and approved at the board level..." (Informant 2, 2024)

Furthermore, information gaps can also arise because the sustainability report preparation team doesn't frequently interact with divisions involved in the company's value chain, particularly the OTI Division, which carries out many supporting activities in the company's business operations. One of the company's activities that can generate the most emissions is business trips to various regions in Indonesia related to the Capital Market CSR program or overseas comparative studies for the development of PT X's clearing infrastructure.

Gap Analysis of Sustainability Reports with IFRS S1 and S2 in Accordance with Sustainable Stock Exchange Guidelines

Based on the analysis of the company's sustainability report against IFRS S1 and S2 standards, in accordance with the SSE guidelines, the following is the result of the gap analysis of the current sustainability report with IFRS S1 and S2 disclosures:

Category	Disclosure Requirements	Fulfilled (Yes/No)
Governance		
	Reflection on governance responsibilities, mandate and policies	No
	Capabilities and competencies of the governance body	No
	Frequency and form of communication	Yes
	Oversight process of company strategy in making decisions to manage sustainability risks and opportunities	No
	Delegation of roles from management body	No
	Regulations and procedures used and how they relate to the execution of control functions	No
Strategy		
	Explanation of the effects of sustainability risks and opportunities, including description and timing of these effects	No
	Explanation of whether the risks and opportunities are climate-based risks, physical risks, or transition risks	No
	Disclosure of how these effects impact the value chain and business model, and where in the value chain and business model they occur	No

Category	Disclosure Requirements	Fulfilled (Yes/No)
	Disclosure of actual plans in responding to sustainability risks and opportunities	No
	Disclosure of financial impacts of sustainability risks and opportunities	No
Risk Management		
	Processes and policies used by the company to identify, assess, prioritize, and monitor sustainability risks and opportunities	No
	Disclosure of parameters and inputs used	No
	Disclosure of scenario analysis used	No
	Disclosure if changes occur in the process	No
	Disclosure of integration of the process with overall risk management	No
Metrics and Targets		
	Greenhouse gas emissions scope 1, 2, and 3	Yes (Partial)
	Percentage of assets and business activities vulnerable to climate risks and opportunities	No
	Amount of investment allocated to manage climate risks and opportunities	No
	Internal Carbon Price Method	No
	Climate-related remuneration	No

Table 3. Gap Analysis Based on SSE

Guidelines of SSE – IFRS S1 and IFRS S2	Fulfilled (Yes/No)
<i>Governance</i>	
Reflection on governance responsibilities, mandate and policies	No
Capabilities and competencies of the governance body	No
Frequency and form of communication	Yes
Oversight process of company strategy in making decisions to manage sustainability risks and opportunities	No
Delegation of roles from management body	No
Regulations and procedures used and how they relate to the execution of control functions	No
<i>Strategy</i>	
Explanation of the effects of sustainability risks and opportunities, including description and timing of these effects	No
Explanation of whether the risks and opportunities are climate-based risks, physical risks, or transition risks	No

Disclosure of how these effects impact the value chain and business model, and where in the value chain and business model they occur	No
Disclosure of actual plans in responding to sustainability risks and opportunities	No
Disclosure of financial impacts of sustainability risks and opportunities	No
<i>Risk Management</i>	
Processes and policies used by the company to identify, assess, prioritize, and monitor sustainability risks and opportunities	No
Disclosure of parameters and inputs used	No
Disclosure of scenario analysis used	No
Disclosure if changes occur in the process	No
Disclosure of integration of the process with overall risk management	No
<i>Metrics and Targets</i>	
Greenhouse gas emissions scope 1, 2, and 3	Yes (Partial)
Percentage of assets and business activities vulnerable to climate risks and opportunities	No
Amount of investment allocated to manage climate risks and opportunities	No
Internal Carbon Price Method	No
Climate-related remuneration	No

Source: processed by the author

1. Governance

The company has currently disclosed the structure of its climate-related governance body, but its responsibilities and functions have not yet been disclosed. The company has also not disclosed its governance capabilities and competencies in its sustainability report regarding climate risks and opportunities. Based on the value chain in Table 5.1, information has been disclosed on how frequently the governance body is informed about environmental aspects that could impact the company's business operations related to climate through various training sessions. However, there is no disclosure in the current Sustainability Report regarding oversight activities regarding the company's climate-related targets. This unmet aspect may create an information gap under IFRS S1 and S2 regarding the structure and role of governance in sustainability and climate-related risks and opportunities. The analysis of the sustainability report's governance disclosure aspect indicates that the company has not fully met the disclosure requirements of IFRS S1 and S2. Table 5.3 shows that the company currently only meets the frequency and form of communication regarding information on sustainability and climate risks and opportunities, but important aspects such as delegation and clarity of authority in managing risks and opportunities in accordance with IFRS S1 and S2 are still missing. A survey by the Financial Services Authority (OJK) on corporate readiness to adopt IFRS S1 and S2 indicates that companies are not yet ready to meet their governance requirements. The survey found that companies are not yet ready to adopt IFRS S1 and S2 due to several factors, including a lack of human

resource competency and skills to oversee strategies designed to address sustainability and climate-related risks and opportunities. The survey also revealed that companies are not sufficiently raising climate-related issues in key oversight forums such as board meetings, audit committee meetings, and other forums.

2. Strategy

The strategy disclosures in accordance with IFRS S1 and S2 are intended to ensure that users of the sustainability report understand the company's strategy for managing sustainability risks and opportunities. This disclosure information will impact the company, in accordance with the IFRS S1 and S2 strategy disclosures. IFRS S1 and S2 regulate several broader strategy disclosures, including strategies affecting sustainability risks and opportunities, business models and value chains, strategy and decision-making, financial position, financial performance, cash flow, and resilience. The strategy disclosures in the current sustainability report do not meet any of the aspects outlined in IFRS S1 and S2. Based on Table 5.1, business operations impacted by the strategy disclosures include conducting market development business meetings, Clearing Member capacity building, public training, in-house training, business travel, corporate strategy development, and market development research. These business processes impact the sustainability of the business, for example, holding business meetings aimed at building new relationships with potential Clearing Members. Capacity building for the Accounting Firm (AK) is conducted annually to foster coordination and collaboration with the Accounting Firm (AK). Training, both public and in-house, is aimed at developing the competencies of employees, particularly those holding strategic positions. Business travel related to business development, such as conducting comparative studies at stock exchanges in various countries. The affected activities are largely not included in the company's current value chain.

Based on interviews, the company has not yet disclosed a detailed strategy to help achieve its climate-related targets. The company's business model and value chain have not been adequately disclosed. The current sustainability report does not disclose a strategy regarding climate-related risks and opportunities. Another risk related to strategy disclosure is the inaccurate allocation of resources, both technological and human, to address climate change issues. Opportunities arising from the disclosure of activities in the strategy aspect include the development of climate change mitigation strategies that can encourage business operations to use more environmentally friendly energy and resources and increase regulatory confidence in the development of climate change strategies.

Based on the results of an OJK survey regarding preparations for the adoption of IFRS S1 and S2, the company has not yet considered the transition to more environmentally friendly operations and has not considered climate-related risks and opportunities when deciding on its budget. The company also lacks a climate-related scenario analysis to assess the resilience of its business strategy.

The results of the gap analysis in table 5.3 are in line with the results of the OJK survey on company adoption readiness, which states that currently companies are not yet fully able to disclose information in accordance with IFRS S1 and S2.

3. Risk Management

Risk management disclosures in IFRS S1 and S2 focus on risk management so that report users can understand the identification, assessment, and prioritization processes, as well as their integration with risk management. The analysis of sustainability reports indicates that companies currently disclose risks related to business continuity and resilience, but they still do not meet the risk management requirements stipulated in IFRS S1. Based on the value chain in Table 5.1, several activities included in risk management that have not been previously disclosed include equity clearing, PUVA clearing, cash and securities monitoring, and data backup and IT maintenance. Clearing activities are included in risk management disclosures in IFRS S1 because clearing is a core company activity that carries financial risks such as default. Cash and securities monitoring activities are also included in risk management because they are related to monitoring cash and securities flows during the netting process and indications of default occur during this activity. The data backup and IT maintenance business processes aim to manage risks related to data security and ensure the smooth running of the clearing process, which is directly related to sustainability. Therefore, the business operations impacted by the implementation of IFRS S1 in the risk management aspect are equity clearing, PUVA clearing, money and securities monitoring, and data backup and IT maintenance. The company currently discloses its risk management and activities undertaken throughout the year to manage risks for enterprise risk, market risk, and business resilience risk. The company has disclosed risks related to business continuity and resilience, but has not disclosed climate-related risk management in accordance with IFRS S2.

Based on Table 5.1, several business operations that will be impacted in the value chain that are not currently covered are equity clearing, PUVA clearing, money and securities monitoring, and data backup and IT maintenance. Equity clearing and PUVA clearing are included in IFRS S2 risk management because these business processes are directly related to core business operations, and failures would impact the company's financial stability and trigger financial risks in the broader capital market. Money and securities monitoring is a business process to ensure clearing runs smoothly without any indication of default, which would pose financial and liquidity risks. Data backup and IT maintenance are risk management activities for technology assets that underpin clearing transactions in the capital market, and therefore fall within the scope of risk management disclosures in IFRS S2.

The gap analysis results in Table 5.3 indicate that the company is not yet ready to adopt IFRS S1 and S2 because all disclosure aspects have not been met. This aligns with the results of the Financial Services Authority (OJK) survey regarding company readiness to adopt IFRS S1 and S2, which indicated that, in terms of risk management, the company has not yet considered sustainability and climate risks in its decision-making. Furthermore, the company lacks adequate policies and guidelines for monitoring and evaluating sustainability and climate risks. Furthermore, the company has not yet identified risks and opportunities related to sustainability and climate. The company explained that the main obstacle to risk management is the lack of comparable

companies, which makes benchmarking difficult in risk management, and the lack of KPIs related to sustainability and climate risk management.

4. Metrics and Targets

The company has disclosed metrics related to scope 1 and 2 GHG emissions, but not scope 3 GHG emissions. However, a re-conducted value chain analysis revealed that many emissions information disclosures should have been made. Based on the value chain analysis, the company emits significant scope 3 GHG emissions that have not been disclosed. These emissions are related to upstream activities related to the clearing process. One example is colocation services in the IT Operations and Monitoring business process, as well as IT Data Backup and Maintenance. Interviews revealed that the colocation services provided in these business processes generate emissions for 24-hour air conditioning and electricity consumption. Furthermore, the company frequently travels out of town and overseas, which generates indirect emissions but is not accounted for. Based on this, the impacted business operations activities are IT Operations and Monitoring, IT Data Backup and Maintenance, In-house Training, Public Training, and Business Travel. If these activities are not disclosed in the metrics and targets section, the disclosure of emissions and energy consumption related to climate change cannot be accurately disclosed and therefore does not meet the disclosure requirements of IFRS S2. The opportunity presented by disclosing these activities is the potential to reduce emissions with measurable metrics and targets related to climate change. Having measurable metrics and targets can facilitate companies' adaptation to regulations related to other environmental changes. Currently, companies lack a specific matrix for assessing environmental performance and targets, and they lack a performance assessment related to sustainability. Companies need to develop the necessary metrics and targets to monitor progress toward achieving targets related to sustainability risks and opportunities.

According to the OJK survey on companies' readiness to adopt IFRS S1 and S2, companies currently rely on third-party metrics to measure sustainability performance. Furthermore, companies have not invested in assets to manage climate-related risks and opportunities. Interviews with the sustainability report preparation team acknowledged that calculating emissions is difficult, and therefore, the environmental impact of the company's business activities is fully calculated by consultants.

"...we hand over the emissions calculations directly to consultants because, frankly, it's difficult to calculate them ourselves..." (Informant 1, 2024)

Currently, the results of an OJK survey on companies' readiness to adopt IFRS S1 and S2 reveal that the biggest challenges and obstacles are a lack of understanding among management regarding the necessary sustainability requirements, and companies' difficulty obtaining data related to sustainability and climate impacts from various sources, both internal and external.

CONCLUSION

This case study revealed that PT X's 2023 Sustainability Report disclosed an incomplete value chain, omitting upstream-to-downstream activities and key business processes like business meetings, market development, clearing member training, IT operations/monitoring, data backup, maintenance, and official trips. Existing GRI-based disclosures simplistically covered only the supply chain, hindering comprehensive sustainability strategies and exposing large gaps—particularly in operational/IT monitoring, training, energy/emissions management—when benchmarked against IFRS S1 and S2's environmental focus. Reliance on consultants, underutilization of technology/human resources, and limited inter-unit value chain understanding posed the primary challenges to transitioning from GRI. Future research could longitudinally track PT X's IFRS S1/S2 implementation post-adoption, assessing technology integration and emissions quantification improvements across Indonesian SROs.

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