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# Environmental, Social, Governance - Sustainability Disclosure Using International Financial Reporting Sustainability Standards S1 in Southeast Asian Companies: A Preliminary Assessment

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## ABSTRACT

This research aims to analyse the gaps in a company's annual reports related to the disclosure requirements in the International Financial Reporting Sustainability Standard (IFRS) S1 and compare them to other companies and business sectors in Southeast Asia. This research analyses 224 companies listed on Environmental, Social and Governance (ESG)-related indexes in Thailand, Singapore, Indonesia and Malaysia. The assessment was done using a disclosure quality matrix consisting of four criteria: (1) Governance (GOV); (2) Strategy (STR); (3) Risk (RSK); and (4) Target and Metrics (MTR). The results of the study show that: (1) Based on the extent and quality of the disclosures, almost all companies fully disclosed GOV, STR and RSK but not MTR; (2) In general, there is a difference between the extent and quality of the disclosures among countries and industries; (3) From the four clusters formed, 94 out of 224 companies classified in the best clusters, while only 12 out of 224 companies classified in the worst clusters. This research implies that there is still much to be done to improve sustainability reporting, including an effort to reduce disparities in the quality and extent of disclosure between countries and business sectors.

**Keywords:** Sustainability, Disclosures, ISSB, Environmental, Social and Governance, Southeast Asia

**JEL Classifications:** M41, Q56

## 1. INTRODUCTION

Sustainability is becoming a trend in private sector management. The attention of investors and regulators has shifted not only to look at performance in financial aspects but also to look at non-financial aspects (Vallone, 2022). Data and facts show the seriousness and interest of various institutions in this sustainability issue, including the establishment of standards for preparing sustainability reports (Garvey et al., 2021). The problem with sustainability reporting standards is that they are seen as not meeting the needs of investors or not being investor focused (Gold and Taib, 2022). Reporting standards are expected to focus on investors, so that investors' decision making is improved due to the information generated by sustainability reporting. Most of the current sustainability reporting is still voluntary, and implementation of the obligation

to prepare sustainability reporting is still constrained because there is no single international standard that most countries in the world can accept (Doni et al., 2020). Financial reporting standards have been accepted as a form of reporting that companies must carry out, and the world has a globally-accepted set of financial reporting standards, namely the International Financial Reporting Standards (IFRS). At the 26<sup>th</sup> United Nations Climate Change conference (COP26) meeting in the United Kingdom in November 2021, IFRS announced the establishment of the International Sustainability Standards Board (ISSB), which, in turn, launched the IFRS Sustainability Disclosure Standards (IFRS SDS). These are standards that provide general principles for companies in disclosing sustainability information related to financial information (related to financial aspects). On March 31, 2022, ISSB launched two drafts of exposure to sustainability

reporting disclosure standards consisting of: (a) IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information. IFRS S1 regulates the general principles and requirements for companies in disclosing sustainability information related to financial aspects. Four main aspects need to be disclosed, namely: (1) Governance, (2) Risks, (3) Strategy and (4) Metrics and Indicators. (b) IFRS S2 Climate-Related Disclosure. IFRS S2 regulates the treatment of sustainability reporting for disclosure aspects related to climate change (climate change). The concept follows the components in IFRS S1.

Previous research conducted in the context of the initial application of standards has examined the extent to which companies are prepared to apply standards (Himick and Brivot, 2018). This research was conducted in Southeast Asian countries because Southeast Asian countries are rich in natural resources and are extractive-based producing countries that have high exposure to issues that exist in Environmental, Social and Governance (ESG) (Pratama et al., 2021). Some research has also suggested that the implementation of sustainability reporting is not easy. Content research conducted by Bavagnoli et al. (2014) suggested that companies are still interpreting differently the terms “materiality” and “conciseness” in corporate reporting; thus, a divergence between practice and the writing of sustainability reports exists. Stubbs and Higgins’s (2014) research on Australian companies concluded that although executives realise that current corporate reporting is obsolete, implementing sustainability reporting is a tough challenge. The lack of specific guidance in writing a sustainability report is one factor that prevents financial capital providers from understanding the details of reports. Research conducted by Van Zyl (2013) in South Africa also found that although many companies are attempting or claiming to create comprehensive corporate reporting, the level of integration and the understanding of what genuine corporate reporting should represent is still very low. Abeysekera (2013) stated that sustainability reporting brings new challenges to auditors. Organisations must now provide detailed information in an integrated report about assumptions behind disclosures, measurement bases and sources of uncertainty estimates of disclosure to help auditors develop an informed opinion about information outside financial reports. The level of disclosure can vary depending on business sectors. Research conducted by Serafeim (2015) indicated that companies with investor activism on environmental and social issues are led to prepare more sophisticated sustainability reporting or more consistent corporate reporting.

The research gap in previous studies also shows that countries will have different readiness levels for the implementation of sustainability reporting. To fulfil the purpose of the reporting, the information presented in the report must fulfil qualitative characteristics (Scott, 2009). Siagian et al. (2013) stated that principle-based standard implementation requires heavy disclosures of judgments, assumptions, considerations and choices. Adams (2004) and Huguen et al. (2014) agreed that the content of comprehensive corporate reporting, including sustainability reporting, will reduce asymmetric information, and the disclosures of the content will be the main focus of the company’s analyst. Wong (2011) described the qualitative characteristics of ESG

reporting, which must include relevance, clarity, freedom from bias, comprehensiveness, timeliness and comparability. Al Farooque and Ahulu (2017) also stated that the industry needs robust guidelines to deliver quality reporting, including an integrated framework for social, environmental and economic inputs and performances.

This research has two objectives (1) Analysing and evaluating the gaps in a company’s annual report related to the disclosure requirements in the sustainability standards issued by the ISSB. (2) Comparing and analysing the gaps among companies in each country in Southeast Asia. This research can also provide contributions to several parties. For companies, this research can provide an overview of the disclosure components in the sustainability report that need to be improved. For investors, this research can provide an overview of how the information in this sustainability report can assist decision making based on the financial information integration framework-ESG. For regulators, this research can provide an initial picture related to entity compliance in sustainability reporting as well as compare countries in Southeast Asia to develop a benchmark for future policymaking. The rest of the paper is divided as follows: section 2 presents a brief literature review and the research hypotheses; section 3 describes the research method; section 4 provides the research results, implications and a discussion; and section 5 concludes the article.

## 2. LITERATURE REVIEW

The concept of sustainability can be interpreted as a concept that considers companies to live for the moment as well as to live in the long term (Tran and Beddewela, 2020). In the concept of uncertainty that exists, the company is then present and active in the community not only in the context of seeking profit but also out of a need to contribute to social welfare and the natural environment in which it is located and operates (Camodeca et al., 2018). This concept is often referred to as the Triple Bottom Line concept or what is often referred to as the 3Ps (Profit, People and Planet). Sustainability accounting itself can be interpreted as recording and communicating accounting information that can show the company’s performance in financial and non-financial aspects, including social, environmental and governance aspects (Hsiao et al., 2022).

Sustainability accounting often departs from the social and environmental accounting fields (Tilt, 2018). Social accounting focuses on the discussion of how to record in accounting the social impacts, social benefits and the extent to which companies contribute to social aspects of society. Environmental accounting discusses how environmental costs and benefits are recorded in corporate reporting in quantitative and qualitative terms. According to Rahman and Alsayegh (2021), the definition of ESG reporting is a “report published by a company or organisation about (ESG) impacts.” The environmental aspects include the extent of the impact of the company’s operations on the natural environment and the efforts made by the company to overcome the negative environmental impacts and carry out environmental conservation. The social aspect is the extent to which the company’s operations

pay attention to social and cultural issues of the community, including the implementation of inclusiveness in the company's business operations. Finally, the governance aspect is the extent to which the governance organs and procedures in the company support the implementation of strategic plans and management control over business operations that support the company's sustainability.

Sustainability theory comes from social performance theory, which is heavily influenced by stakeholder and legitimacy theories. Stakeholder theory and legitimacy theory hold that companies should pay attention to the interests of their stakeholders and provide legitimacy that the company exists for the diverse interests of its stakeholders, which include the interests of the general public (Corazza et al., 2020). On the other hand, the agency theory views sustainability reporting as a system of checks and balances to prevent agency problems caused by agents who tend to sacrifice environmental and social performance to obtain high financial performance (Vitolla et al., 2020). The sustainability aspect of the company's ESG will undoubtedly be sympathetic for companies exposed to high social and environmental activities. The need for such companies to report social and environmental performance is also higher (Adams and Abhayawansa, 2022).

While many companies have prepared sustainability reporting, the preparation of these reports has not found strong momentum that would allow it to be meaningful for investors (Bartolacci et al., 2022). It is believed that the emergence of sustainability reporting standards positively affects investors and companies, primarily because of the availability of a comprehensive reporting framework that integrates financial reporting with non-financial reporting (Torre et al., 2018). However, the sustainability reporting standards compiled by the ISSB contain very different information from existing sustainability reporting, which makes it necessary to do a gap analysis to see how big the difference is and how much effort must be spent by a company to close the gap. The gap is not only between the new standard and the existing standard but also the gap in existing practices in various countries. Southeast Asian countries do not share the same effort and progress in developing ESG reporting infrastructure as do other countries.

Disclosure of information is compulsory to reduce information asymmetry and enable users of the report to make better judgements (Beyer et al., 2010). However, considerable research has measured disclosure on one side only, either the perceived importance of disclosure (details) or the extent of the disclosure (index-based; Robbins and Austin, 1986). Many studies on disclosure use a disclosure index in which the researcher will prepare a checklist consisting of many items to disclose, and the disclosure level will be determined by the number of items divided by the total items to disclose (Pavlopoulos et al., 2017). The disclosure level measured by the disclosure index is superficial and can be automated by a machine or software, but it can hide the true nature of the disclosure (Beyer et al., 2010; Berger, 2011). Marston and Shrivs (1991) suggested that the researcher needs to consider a more qualitative aspect of the disclosure. They argue that the disclosure index treats all disclosure components equally. There will be different priorities

or importance levels of information for investor decision-making (Urquiza et al., 2009).

In contrast, disclosure based on the details will provide more detail and an accurate assessment of quality because the measurement is expanded from just "exist or not exist" to "bad or good" (Cheung et al., 2010). The details can be provided by assigning numbers indicating "bad", "adequate" and "good". However, the weakness of this measurement is the heavy subjectivity of the assessor (Pratama, 2017). The scoring matrix must be produced as a guideline for the assessor. Healy and Palepu (2001) stated that checking disclosure based on details requires sufficient knowledge in the field of content analysis. Achim and Borlea (2015) suggested that one of the rule-based tools will be a device to assess the quality of the reporting or a "scoring system." Scoring systems are tools to achieve excellent quality in reporting, which can lead to better financial performance and management quality (Churet and Eccles, 2014).

### 3. METHODS

This research was conducted with a descriptive quantitative approach. A descriptive quantitative approach means that this research aims to describe the extent of the gap in sustainable reporting between the old standard and the new standard, which is then quantified and compared across Southeast Asian countries. The data in this study are disclosures by a company related to sustainability in the form of the narrative and information contained in the company's annual report. In this research, the data were measured using the standard framework contained in IFRS S1. The data were classified using the matrix contained in the Appendix. A summary of the matrix can be seen in Table 1. There were 38 disclosure items to be assessed. This research evaluated not only the existence of the disclosures but also disclosure quality. Therefore, the researcher applied two stages of data collection. First, the existence of a disclosure was given a score of 1, while a lack of disclosure was given a score of 0. Second, if the item existed, then the disclosure quality of the item was measured using three categories, namely poor (score 1), sufficient (score 2) and good (score 3). The disclosure item matrix can be found in the Appendix. The population in this study consisted of companies listed on the stock exchanges of Indonesia, Singapore, Malaysia and Thailand that were classified as companies with high sustainability performance as evidenced by the company's listing in the ESG stock index and their position in April 2022. The population of this study amounted to 257 companies as presented in Table 2. This research also divided companies into several business sectors, namely: (1) Agriculture; (2) Mining; (3) Industries; (4) Infrastructure; (5) Consumer goods; (6) Trade and services; (7) Financial; and (8) Property. The entire population was targeted for data collection.

Data were collected by means of a literature study using the 2021 annual reports of the companies along with a matrix, as shown in the Appendix. Data analysis was conducted quantitatively descriptively using the following statistics:

1. Descriptive statistics that include the data's average, standard deviation, maximum and minimum. The data is presented in (1) an overall view and (2) a country view



**Table 1: A summary of ISSB disclosures**

No	Description
1	The identity of the body or individual within a body responsible for sustainability-related risks and opportunities
2	How the body's responsibilities for sustainability-related risks and opportunities are reflected in terms of reference, board mandates and other relevant entity policies
3	How the body ensures that the correct skills and competencies are available to oversee strategies designed to respond to sustainability-related risks and opportunities
4	The processes and frequency by which the body and its committees (audit, risk or other committees) are informed about sustainability-related matters and the associated sustainability-related risks and opportunities
5	How the body and its committees consider sustainability-related risks and opportunities when overseeing the entity's strategy, decisions on major transactions and risk management policies, including any assessment of trade-offs and analysis of sensitivity to uncertainty that may be required
6	How the body oversees the setting of sustainability-related targets and monitors progress towards them, including whether and how related performance metrics are incorporated into remuneration policies
7	A description of management's role in assessing and managing sustainability-related risks and opportunities (for example, whether sustainability-related responsibilities have been assigned to specific management-level positions or committees and whether appropriate controls have been put in place by management to monitor sustainability-related matters, including ways in which sustainability-related risks and opportunities are considered and coordinated across different internal functions) and how the body oversees management in that role
8	The significant sustainability-related risks and opportunities that it reasonably expects could affect its business model, strategy and cash flows over the short, medium or long term
9	A description of the processes in place to identify significant sustainability-related risks and opportunities that it reasonably expects could positively or negatively affect the entity's business model, strategy and cash flows
10	How the entity defines short, medium and long term and how the definitions are linked to the entity's strategic planning horizons and capital allocation plans
11	A description of specific significant sustainability-related risks or opportunities and the time horizon over which each could reasonably be expected to have a financial effect on the entity
12	The impact of significant sustainability-related risks and opportunities on its business model
13	A description of the current and anticipated effects of significant sustainability-related risks and opportunities on its value chain for producing goods or services (for example, supply chains, operations, workforce, marketing and distribution channels)
14	Where in the entity's value chain significant sustainability-related risks or opportunities are concentrated (for example, geographic areas, facilities or types of assets, inputs, outputs or distribution channels)
15	The impact of significant sustainability-related risks and opportunities on management's strategy and decision making
16	How it is responding to significant sustainability-related risks and opportunities
17	Plans and critical assumptions for legacy assets, where applicable
18	Quantitative and qualitative information about the progress of plans previously disclosed in accordance with paragraphs 30(a) and 30(b) in the prior reporting periods
19	What trade-offs between sustainability-related risks and opportunities were considered by management in their decision making (for example, in a decision on the location of new operations, a trade-off between the environmental impacts of those operations and the employment opportunities they would create in a community and the related effects on enterprise value)
20	How significant sustainability-related risks and opportunities are included in the entity's financial planning decision making (for example, in relation to investment decisions and funding)
21	The impact of significant sustainability-related risks and opportunities on the entity's financial position, performance and cash flows at the reporting period end and as anticipated over the short, medium and long term
22	How significant sustainability-related risks and opportunities have affected the entity's most recently reported financial performance, position and cash flows
23	How management expects the entity's financial position to change over time in line with its strategy to address significant sustainability-related risks and opportunities reflecting (i) The entity's current and committed investment plans and their anticipated impact on the financial position, (for example, major acquisitions and divestments, joint ventures, business transformation, innovation, new business areas and asset retirements) (ii) The entity's planned sources of funding to implement the strategies
24	How management expects the entity's financial performance to change over time in line with its strategy to address significant sustainability-related risks and opportunities
25	How the entity's assessment of significant sustainability-related risks and opportunities has affected judgements made or present sources of estimation uncertainty in the financial statements
26	The resilience of the entity's strategy to significant sustainability-related risks
27	The process by which sustainability-related risks are identified
28	The process or processes by which the entity assesses the significance of sustainability-related risks, including, when relevant: (i) how it determines the likelihood and impact of such risks (such as the qualitative factors or quantitative thresholds used) (ii) how it prioritises sustainability-related risks relative to other types of risks, including the use of risk assessment tools (iii) which significant input parameters it uses (for example, data sources, the scope of operations covered and the level of detail used in assumptions); and (iv) whether it has changed the processes used compared to the prior reporting period;
29	For each significant sustainability-related risk, information that enables an understanding of how the risk is being monitored, managed and mitigated, including related policies
30	The extent to which, and how, these sustainability-related risk identification, assessment and management processes are integrated into the entity's overall risk management process

(Contd...)

**Table 1: (Continued)**

No	Description
31	Cross-industry, industry-based and activity metrics
32	Targets set by its governance body or bodies (which includes a board, committee or equivalent body charged with governance and management); and
33	Other key performance indicators used by the governance body or bodies to measure progress towards the targets identified in 37(b)
34	Targets set by management to mitigate or adapt to sustainability-related risks or enhance sustainability-related opportunities and achieve strategic goals
35	Information about the nature of the target, including when relevant (i) a clear indication of whether the target is absolute, normalised, intensity or activity-based (ii) the timeframe over which the target applies (iii) the base period from which progress is measured (iv) any milestones or interim targets; and (v) whether the target is determined based on external parameters or validated as part of sustainability initiatives
36	Metrics and other key performance indicators used to assess progress towards reaching targets and achieving strategic goals
37	The entity’s performance against disclosed targets and analysis of trends or significant changes to performance
38	Explanations of the methods used to calculate the targets and the inputs to the calculation, including the significant assumptions made and the limitations of those methods

2. A cluster analysis to identify clusters based on the quality of sustainability reporting. The researcher sorted the companies into several clusters using Hierarchical and Non-Hierarchical Cluster Analysis. The researcher assigned each company to several clusters with four sustainability disclosure components as the clusters’ main characteristics. To determine the number of clusters, the researcher used the Hierarchical Method using Ward’s method; the number of clusters formed using the Ward Method was processed further using Non-Hierarchical Analysis using the K-means method to find final cluster solutions
3. Differences were tested to compare the value of sustainability disclosure between industries and countries in the study. The difference test was carried out using the Kruskal-Wallis test.

## 4. RESULTS AND DISCUSSION

### 4.1. Results

#### 4.1.1. Company data

From 258 companies, this research was able to collect the annual reports of 224 companies for the year ended 2021. These annual reports were collected from companies in Thailand, Indonesia and Malaysia. For Singapore, this research managed to collect 53 reports from 79 companies; the annual reports for the other 26 companies could not be found. For the 224 companies, the top three business sectors were Trade and Services, Industries and Finance. This shows that the ESG-related index is no longer limited to the extractive or high context industries but also includes other sectors, mainly services and manufacturing. This phenomenon shows that ESG awareness and performance have already spread to almost all business sectors (Hoang, 2018). The data are shown in Table 3.

#### 4.1.2. Existence of the disclosure

As can be seen in Table 4, this research shows that in terms of disclosing the items, almost all companies already present in their annual reports the items required by ISSB. In GOV, all companies disclosed all seven items required by the ISSB. In STR and RSK, the average level of disclosure was 96.9% and 97.7%, respectively. The standard deviations of STR and RSK are relatively low at 8% and 7.1%, respectively. This data also shows that the variation

**Table 2: Research population**

No.	Country	Sustainability-related index	Number of companies
1.	Indonesia	ESG Quality Index 45 Kehati	45
2.	Singapore	iEdge ESQ Leader Index	79
3.	Malaysia	FTSE4Good Bursa Malaysia	80
4.	Thailand	SET THIS	46
Total			258

**Table 3: Data characteristics**

Business sectors	Countries				Total
	Singapore	Thailand	Indonesia	Malaysia	
Agriculture	3	0	2	5	10
Mining	1	4	3	4	12
Industry	12	6	6	11	35
Consumer Goods	1	3	8	4	16
Trade and Service	13	14	6	26	59
Infrastructure	1	7	9	8	25
Finance	4	7	9	14	34
Property	18	5	2	8	33
Total	53	46	45	80	224

among companies in disclosing these two items is low. The results for MTS are the lowest, only achieving on average 87.5% with a standard deviation of 22%. This standard deviation also shows that the variety of companies disclosing the MTR is high. This research also shows that at the country level, Malaysian companies have the highest disclosure level with an average of 99.6%, while Indonesian companies have the lowest disclosure level with an average of 82.2%.

This research also shows that at the business sectors level, the property sector has the highest disclosure level with an average of 98%, while the consumer goods sector has the lowest disclosure level at an average of 82.2%. In general, the disclosure level of all companies is 94.7% with a 9.5% standard deviation. The low standard deviation shows that, in general, the companies strive to comply with the ISSB rules by disclosing all the items. The gaps of 5.3% generally come from the MTR section.

**Table 4. Description of the existence of the disclosure**

Business sectors	Countries														
	Singapore					Thailand					Indonesia				
	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total
	<i>Per Business sectors average</i>														
Agriculture	1.000	1.000	1.000	1.000	1.000	-	-	-	-	-	1.000	0.845	0.930	0.500	0.780
Mining	1.000	1.000	1.000	0.310	0.790	1.000	1.000	1.000	1.000	1.000	1.000	0.877	0.857	0.793	0.867
Industry	1.000	1.000	1.000	0.770	0.930	1.000	1.000	1.000	1.000	1.000	1.000	0.825	0.808	0.745	0.825
Consumer Goods	1.000	1.000	1.000	0.310	0.790	1.000	1.000	1.000	0.770	0.930	1.000	0.769	0.803	0.490	0.725
Trade and Service	1.000	1.000	1.000	0.735	0.919	1.000	1.000	1.000	0.869	0.968	1.000	0.762	0.880	0.550	0.755
Infrastructure	1.000	1.000	1.000	0.919	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.836	0.890	0.719	0.833
Finance	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.901	0.970	1.000	0.993	0.984	0.778	0.928
Property	1.000	1.000	1.000	0.983	0.995	1.000	1.000	1.000	0.862	0.958	1.000	0.910	1.000	0.575	0.835
Descriptive statistics	<i>All Business sectors</i>														
Average	1.000	1.000	1.000	0.851	0.955	1.000	1.000	1.000	0.923	0.977	1.000	0.848	0.886	0.659	0.822
Std. Dev	-	-	-	0.283	0.085	-	-	-	0.207	0.062	-	0.118	0.124	0.216	0.107
Minimum	1.000	1.000	1.000	0.310	0.790	1.000	1.000	1.000	0.310	0.790	1.000	0.560	0.570	0.310	0.600
Maximum	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

  

Business sectors	Countries									
	Malaysia					All Countries				
	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total
	<i>Per Business sectors average</i>									
Agriculture	1.000	1.000	1.000	0.968	0.992	1.000	0.969	0.986	0.884	0.952
Mining	1.000	1.000	1.000	0.978	0.995	1.000	0.969	0.964	0.891	0.949
Industry	1.000	1.000	1.000	1.000	1.000	1.000	0.970	0.967	0.871	0.944
Consumer Goods	1.000	1.000	1.000	1.000	1.000	1.000	0.884	0.901	0.659	0.836
Trade and Service	1.000	1.000	1.000	0.985	0.996	1.000	0.976	0.988	0.864	0.948
Infrastructure	1.000	1.000	1.000	0.980	0.995	1.000	0.941	0.960	0.892	0.938
Finance	1.000	1.000	1.000	0.989	0.997	1.000	0.998	0.996	0.916	0.974
Property	1.000	1.000	1.000	0.990	0.998	1.000	0.995	1.000	0.942	0.980
Descriptive statistics	<i>All Business sectors</i>									
Average	1.000	1.000	1.000	0.985	0.996	1.000	0.969	0.977	0.875	0.947
Std. Dev	-	-	-	0.302	0.009	-	0.080	0.071	0.227	0.095
Minimum	1.000	1.000	1.000	0.920	0.980	1.000	0.560	0.570	0.310	0.600
Maximum	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

There are no companies in Thailand classified in the agriculture sector; therefore, no results were produced. There is no dispersion in Singapore and Thailand data; therefore, no standard deviation was produced

From the difference test that was conducted, the results are the same in terms of countries and business sectors. The results show that for the GOV criteria, there are no differences since all companies in this study disclosed 100% of the GOV component. For all other components, the Kruskal-Wallis test showed the significant differences across all countries and business sectors. The results are shown in Table 5.

**4.1.3. Quality of the disclosures**

In terms of quality of the disclosures, all companies in the sample scored an average of 77.04, with a standard deviation of 13.04. The high score of the standard deviation indicates that the quality variation among the companies was high. From the four disclosure components, the component with the highest score was GOV, and the lowest score was MTR. This result shows consistencies between the quality score and the existence score. In terms of standard deviation, the lowest standard deviation was for GOV, and the highest standard deviation was for MTR. This result again shows consistencies between quality and existence. Governance can be easily disclosed since the governance disclosure only mandated that the company present the board or responsible persons in charge of sustainability-related governance (Alsayegh et al., 2020). Targets and metrics are a difficult task to undertake because many companies are still in the early stages of developing the targets and metrics to measure

**Table 5: Kruskal-Wallis test of the existence of the disclosure**

Variable	Kruskal-wallis test results			
	Country comparison		Industry comparison	
	Chi-square	Sig	Chi-square	Sig
GOV	0.000	1.000	0.000	1.000
STR	173.766	0.000*	30.445	0.000*
RSK	106.096	0.000*	31.161	0.000*
MTR	72.345	0.000*	15.850	0.027*
TOTAL	98.082	0.000*	19.466	0.007*

\*Significant at α=5%

sustainability performance (Yu and Luu, 2021), and many of the Southeast Asia companies assess sustainability performance using an external consultant (Asante-Appiah and Lambert, 2022). Each consultant measures sustainability using different criteria; therefore, it is difficult to measure (Khalid et al., 2021).

In terms of countries, this research shows that Thailand companies on average had the highest score in quality of disclosure, while Indonesia had the lowest score. For Indonesia, the result is consistent with the previous result, which gives Indonesia cumulatively the lowest score both in terms of existence and quality of the disclosure. Singapore and Malaysia had very similar

average scores. In terms of business sectors, the top three sectors were Finance, Property and Mining, while consumer goods became the business sectors that had the lowest score in terms of quality of disclosure. The consumer goods cumulatively had the lowest score both in terms of existence and quality of the disclosure. Table 6 presents the results.

From the difference test that was conducted, there is a difference between quality of disclosures among the countries, and in the business sectors, there is a difference between quality of disclosures other than for GOV. These results show that for GOV, the existence and quality of disclosures had reached the optimum level; however, among countries, the Indonesia GOV score is comparatively low, which could explain why the difference test among countries in terms of quality was significant. The results are shown in Table 7.

4.1.4. Cluster analysis

The first step in the cluster analysis was to determine whether there was no sustain linearity in existence among the disclosure components. Based on the VIF numbers (Table 8), there was no issue of sustain linearity. The sustain linearity test results are presented in Table 9. The next step was to determine the number of clusters formed. To determine this number, we used the hierarchical method by analysing the agglomeration schedule. As can be seen in Table 10, the reduction rate is smooth in the fourth cluster; therefore, the number of clusters formed was four. The cluster member was assigned using the non-hierarchical K-mean method. The F-test showed that the cluster assignment was deemed fit with the model presented, as shown in Table 9.

The next step was to analyse the clusters that just formed. From Table 8, we can characterise the clusters as follows:

- Cluster 1 is the cluster for companies that had the highest score in quality of disclosure. The majority of companies were in this cluster (99 out of 224 companies). GOV, STR and RSK had average scores well above 90, and the MTR average score was above 80. The lower MTR score is justifiable since the average MTR score is the lowest in the companies. In terms of countries, Thailand and Singapore companies dominated this cluster; 39 out of 46 Thailand companies and 29 out of 53 Singapore companies were classified in Cluster 1. For Indonesia, only 5 out of 45 companies were in this cluster. This indicates that Indonesian companies still need to increase the quality of their sustainability disclosure. For Malaysia, there were 21 companies in this cluster, which only represented about 25% of the total companies in Malaysia. In terms of business sectors, mining, industry, trade and service, infrastructure, finance and properties were dominant in this cluster. Overall, it can be implied that almost all business sectors had good performance in the sustainability disclosures. However, there are several sectors that still need to improve, especially the sectors that did not dominate Cluster 1
- Cluster 2 is the cluster for companies that had the second-best quality of sustainability disclosure. There were 66 of 224 companies in this cluster. The GOV, STR, RSK and MTR scores were the second highest, below the average score in Cluster 1. In terms of countries, Malaysian companies dominated this cluster, followed by Indonesia and Singapore.

Table 6: Description of the existence of the disclosure

Component	Countries																								
	Singapore			Thailand			Indonesia			Malaysia			All Countries												
	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total	GOV	STR	RSK	MTR	Total					
Agriculture	94	86	86	67	81	-	-	-	-	-	86	67	58	30	57	86	81	77	67	77	88	80	76	60	74
Mining	81	73	62	38	62	100	92	95	84	91	94	72	65	57	70	91	80	79	69	78	94	81	79	69	79
Industry	90	81	76	59	75	100	97	95	87	94	94	72	63	50	67	81	74	70	63	71	89	80	75	63	76
Consumer goods	81	73	62	38	62	94	87	92	69	83	88	54	57	30	53	81	74	71	75	75	87	67	68	49	65
Trade and service	91	81	79	57	75	96	91	94	74	87	88	56	63	40	57	82	77	73	69	75	88	79	78	65	76
Infrastructure	100	90	95	67	85	100	91	99	87	92	94	66	69	47	65	87	80	72	69	76	94	78	79	66	77
Finance	98	87	89	73	85	99	8	94	74	87	96	85	81	69	81	86	82	80	75	80	93	85	84	73	82
Property	96	86	87	71	83	96	90	87	82	88	83	61	60	36	57	86	80	75	70	77	93	83	82	70	81
Average	92.90	82.82	81.76	63.13	78.34	97.72	90.76	94.82	79.32	89.00	91.75	67.13	66.35	47.35	65.03	84.17	78.49	74.40	69.58	76.06	90.54	79.75	78.59	65.59	77.04
Std. Dev	8.54	7.29	15.11	15.09	10.05	5.74	7.16	10.28	19.80	10.41	8.52	16.34	14.44	20.40	14.63	11.41	10.69	9.77	14.01	10.14	10.53	13.26	15.45	19.93	13.54
Minimum	81	71.00	57.00	23.00	61	81	75	62	31	64	67	23	38	15	38	48	58	52	46	55	48	23	38	15	38
Maximum	100	92.00	100.00	85.00	91	100	100	100	100	100	100	94	95	95	95	100	98	95	97	97	100	100	100	100	100

Per industry average

All industries

There are no companies in Thailand classified in the agriculture sector; therefore, no results were produced



**Table 7: Kruskal-Wallis test of the quality of the disclosure**

Variable	Kruskal-Wallis test results			
	Country comparison		Industry comparison	
	Chi-square	Sig	Chi-square	Sig
GOV	63.244	0.000	13.097	0.070
STR	69.686	0.000	17.636	0.014
RSK	78.706	0.000	16.114	0.024
MTR	60.569	0.000	17.056	0.017
TOTAL	69.698	0.000	18.090	0.012

\*Significant at  $\alpha=5\%$

**Table 8: Cluster description**

Description	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Average score of companies in each cluster				
GOV	99	88	82	81
STR	91	77	70	47
RSK	93	74	65	50
MTR	82	67	44	25
Total number of companies in each cluster by countries				
Singapore	29	12	12	0
Thailand	39	1	6	0
Indonesia	5	14	14	12
Malaysia	21	39	20	0
Total	94	66	52	12
Total number of companies in each cluster by business sectors				
Agriculture	2	6	1	1
Mining	6	3	2	1
Industry	13	11	11	0
Consumer Goods	3	3	6	4
Trade and Service	22	17	16	4
Infrastructure	10	7	7	1
Finance	19	12	3	0
Property	19	7	6	1
Total	94	66	52	12

**Table 9: Multicollinearity test and F-test**

Component	VIF	F value	F Sig value
GOV	1.784	66.366	0.000*
STR	3.589	243.152	0.000*
RSK	3.567	245.132	0.000*
MTR	2.827	251.687	0.000*

\*Significant at  $\alpha=5\%$

**Table 10: Agglomeration schedule**

Cluster formed	Agglomeration number	Decrease (%)
1	20.573	-
2	9.565	53.51
3	6.615	30.84
4	5.687	14.03
5	4.931	13.29
6	4.226	14.30
7	3.612	14.53
8	3.135	13.21
9	2.755	12.12
10	2.545	7.62

There is similarity between this cluster and Cluster 1 in terms of business sectors. This cluster is dominated by trade and services, infrastructure, finance and industry

- Cluster 3 is the cluster for companies that had the third-best quality of sustainability disclosure. There were 54 of 224

companies in this cluster. This cluster had a total number of companies that was slightly lower than Cluster 2. From the characteristics of the clusters, the GOV, STR, RSK and MTR scores in Cluster 3 were the third highest; however, the average score was not too different from that of Cluster 2. In terms of countries, this cluster also had similar characteristics to Cluster 2. Malaysian companies dominated this cluster, followed by Indonesia and Singapore. In terms of business sectors, this cluster also shared similarity with Cluster 2. This cluster is dominated by trade and services, infrastructure, finance and industry. The consumer goods sector also dominated this cluster. The similarity between Clusters 2 and 3 can be interpreted to mean that the quality of the disclosure was almost the same and that if we calculated the total number of Clusters 2 and 3, it would represent a majority of all companies. This shows that although the sample represents the best ESG-performance companies, there is still a need for improvement in terms of company disclosures

- Cluster 4 is the cluster with the lowest quality of disclosure. It only has 12 companies, all of which are Indonesian companies. In terms of business sectors, there was only one or even zero representation of business sectors in Indonesia other than for consumer goods and trade and services. This shows that Indonesian companies still need to improve in terms of quality of disclosure and that the consumer good's sector needs to improve their disclosure.

Table 8 summarise the findings and the descriptions of the clusters. It can be presented as follows:

## 5. DISCUSSION

This research produced several interesting results. First, this research shows that, in general, the companies with good ESG performance have a higher level of disclosure both in terms of existence and quality. However, there is still a wide gap in describing the targets and metrics of sustainability. This result was consistent at the country level, since the results in each country showed that targets and metrics is a disclosure component that has the lowest score. Targets and metrics scores were different from scores for governance, strategy and risk. In general, the governance, strategy and risk components had no differences in terms of existence scores and quality scores, that is, disclosure quality is already at an optimum level. However, even though the company disclosed the targets and metrics, the quality of this disclosure was poor. Targets and metrics deal with how the company measures the sustainability effort and whether there is a specific target that needs to be fulfilled by the company (Dye, et al., 2021). To measure the effectiveness of the sustainability efforts, targets and metrics need to be quantitatively defined (Tamimi and Sebastianelli, 2017). Currently, there is no single set of standards that can provide the threshold for the targets and metrics across all industries (Kotsantonis and Serafeim, 2019). Before it merged into the Value Reporting Foundation and now part of the ISSB, the Sustainability Accounting Standards Board (SASB) had constructed the materiality map and proposed targets and metrics for 88 industries. Although it had created such an effort, there was still complexity in applying those metrics in a company (Busco,

et al., 2020). Most of the ESG-sensitive companies had their own unique business processes. The metrics provided by SASB didn't provide a way for such uniqueness to be disclosed (Rodriguez et al., 2017). The Global Reporting Initiative (GRI) standards were also principle based and did not provide such detailed metrics and targets (Bose, 2020). The lack of disclosure of targets and metrics can also be attributed to the secrecy of the targets and metrics. Many of the metrics and targets have been developed by companies, and disclosure to the public creates a fear that competitors might find the company's weaknesses, and if the metrics and targets show negative results, it can be a subject of public scrutiny that can lead to reputational loss for the company (Cort and Esty, 2020).

Second, we can see from the data that Thailand is the best country in terms of existence and quality of the disclosures, while Indonesia is the worst country. The statistical test also showed that there is a difference between each country's score, and obviously, Indonesia scored lower, while Thailand scored highest but only slightly different from Singapore and Malaysia. This result implies that except for Indonesia, Singapore, Malaysia and Thailand are already matured in their sustainability/ESG reporting. This research supports previous findings by the National University of Singapore and ASEAN CSR Research (2016). In their study, the average ESG disclosure was around 47%, and Thailand scored highest with 57%, while Indonesia scored lowest with 39. Based on the report produced by Sustainalytics (2022), Thailand leads the six ASEAN countries (Singapore, Malaysia, Thailand, Vietnam, Indonesia and the Philippines) in terms of average ESG performance because of a moderate risk exposure level and a relatively good management score. However, the report also stated that compared with other regions, ASEAN countries have a higher ESG risk than companies in Europe and North America but are in line with the rest of Asia Pacific. Five out of six countries-all except Thailand-lag the global average level. This report from Sustainalytics (2022) shows that not much change occurred in the quality of ESG disclosures in ASEAN countries during the years 2016-2022. The key factor in the higher ESG score is regulation and government support (Sharma et al., 2020). Thailand, Singapore and Malaysia all had their ESG reporting regulation prior to 2015, and thus, the ESG reporting regulation can be more quickly implemented, while countries such as Indonesia and the Philippines implemented their ESG rules in 2017. For Indonesia, the disclosure scores were low because Indonesia shows higher, unmanaged ESG risk due to a lower management score and greater exposure to high-ESG risk industries such as steel, mining, oil and gas, electric utilities and food (Sustainalytics, 2022). The higher ESG-risk score results from many cases of environmental destruction and the rising of social inequality in Indonesia (Mashudi et al., 2021). Indonesian status as a developing country can also explain the low ESG score since previous research has shown that developing countries still struggle to establish core governance systems in companies and that ESG issues are still viewed as tertiary issues for many of the companies and investors (Ali et al., 2022). The developing countries also have problems with low knowledge and awareness of sustainability matters (Singhania and Saini, 2021).

Third, this research shows that, in general, all business sectors disclosed around 95% of the components mandated by the ISSB,

except for consumer goods, which is still below 85%. In terms of quality, however, only two sectors obtained an 80 plus score, while all the rest of the business sectors except consumer goods scored around 75-78. This research shows that consumer goods performed very poorly in the ESG disclosures. Consumer goods companies are exposed to material environmental risks across their value chains. There are issues such as bad waste management and environmental impacts on their supply chains, that is, on production, distribution and consumption (Porter et al., 2019). Therefore, the ESG risk of this sector is quite high. However, many of its stakeholders perceived that the consumer goods sector did not endanger the environment but rather that it is not ESG-sensitive (Garcia et al., 2017). This is different from the extractive industries, which are sensitive to the ESG issues, and therefore, they are more socially responsible due to the possibility of more scrutiny from the public (Ahsan et al., 2022). The finance and property sectors scored the highest in terms of disclosure quality. The finance sector's high disclosure score might be from the rise in sustainable finance and sustainable investment in the Southeast Asian Region (Miralles-Quirós et al., 2019). Many financial companies don't want to engage in the investment or credit that proved to be environmentally or socially harmful. Financial companies managing investment and credit have also become subject to the regulation of sustainability reporting due to the fact that the banking and finance industry usually have very robust regulation and the addition of sustainability will be easy to be implemented (Buallay et al., 2021). In the property sectors, the rise of green homes or apartments and green offices also provided a catalyst for property companies to disclose their ESG activities (Brounen et al., 2021). Although not significantly different, the extractive sector's disclosure score was not as high as the finance and property sectors. This result shows that all sectors are now trying to embrace sustainability-related disclosure more seriously (Ng et al., 2020); however, the average score of 77 indicates that there is still much more to be done to increase the disclosure score among all business sectors.

Lastly, this research also shows that among the four clusters that formed, most of the companies already had an above average score. For Cluster 1, 94 out of 224 companies or 41.96% were members, while only 12 out of 224 companies or 5.36% were members of Cluster 4. However, since the studied companies were all members of the ESG-related index in the respective stock market, this is proof that there is still much to be done to increase the sustainability disclosure score. The fact that ASEAN companies still had low average scores in terms of quality of disclosure can explain the reason not all companies listed in the ESG index had better scores in disclosure quality.

## 6. CONCLUSION

This research shows us that the journey of ASEAN countries to achieve a higher status in social and sustainability disclosure quality still has far to go. ASEAN countries are comprised of developed and developing countries. In this study, four countries were chosen, three of which can be classified as developed countries and one as a developing country. Sustainability is already a central issue in developed countries, but not in developing countries. This

research also implies that disclosure depends on the government to introduce a mechanism to apply and create sustainability reporting. The late introduction of regulation can result in a low score in disclosure quality. Based on the experience of the ISSB and other standard-setting boards, it can be recommended that sustainability standards should adopt a more rule-based approach rather than the principle-based approach to provide clearer aspects of reporting, especially for targets and metrics.

This research is not without limitation. This is due to the exploratory nature of this research. First, this research only studied companies that were listed in the ESG index in four countries. Later research could add companies that are not listed in the ESG index and make a comparison between companies listed in the ESG index and non-ESG index; this can be of assistance in answering questions about the ESG index and a company's ESG reputation. Second, this research only selected four ASEAN companies based on the availability of an ESG-related index. If more ASEAN countries release an ESG-based index, then it will be impactful to add more ASEAN countries to future research studies. Finally, future research could use the metrics instrument that was developed to measure the existence and quality of the disclosure. It is also highly recommended that the cause and effect of the ESG-related disclosure score be tested, that is, add more independent or dependent variables so that the metrics can be a good basis for future research about the sustainability reporting in line with the IFRS standards.

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## APPENDIX

Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
1	Explanation of the identity of the specific organs that deal with risks and opportunities related to sustainability within the company and or individuals involved in sustainability activities in the company's organisation	Information on specific organs is provided, including the background of the establishment and accompanied by a narrative explanation of at least ½ page	Information on specific organs is provided, including the background of the establishment and is also accompanied by a narrative explanation but is less than ½ page long	Information about specific organs was provided, but there was no other additional information about these organs, either background or establishment	There is no information presented in the annual report
2	Explanation of the company's vision, mission, strategy or goals related to sustainability	Sustainability information is contained in the company's vision, mission, strategy and goals	Sustainability information is limited to only containing the company's strategy and objectives	Sustainability information only contains strategy and or objectives	There is no information presented in the annual report
3	An explanation of how the organ/individual has good competence and expertise to be able to carry out the task of managing sustainability in the company	there is complete information on all of the following in the annual report: (1) personnel profile, (2) personnel education, (3) personnel experience and (4) number of personnel dealing with sustainability	there is complete information on 3 of the following 4 in the annual report: (1) personnel profile, (2) personnel education, (3) personnel experience and (4) number of personnel dealing with sustainability	there is complete information regarding a maximum of 2 of the following 4 in the annual report: (1) personnel profile, (2) personnel education, (3) personnel experience and (4) number of personnel dealing with sustainability	There is no information presented in the annual report
4	Explanation of the process and frequency of meetings or meetings or activities where specific sustainability organs and other company organs discuss matters relating to sustainability	there is the complete information regarding all of the following in the annual report: (1) the working procedures of the sustainability organ, (2) the types of activities of the sustainable organ, (3) the frequency of meetings/activities	there is complete information regarding 2 of the following three things in the annual report: (1) the work procedures of the sustainability organ, (2) the types of activities of the sustainable organ, (3) the frequency of meetings/activities	there is complete information regarding 1 of the following three things in the annual report: (1) the work procedures of the sustainability organ, (2) the types of activities of the sustainable organ, (3) the frequency of meetings/activities	There is no information presented in the annual report
5	Explanation of the work of organs or individuals related to sustainability	There is narrative information and also illustrations regarding the work of organs, with a minimum length of 1 page	There is narrative information and also illustrations about the work of organs, with a length exceeding ½ page but not up to 1 page	There is narrative information about the work of organs, with a maximum length of ½ page	There is no information presented in the annual report
6	Explanation of how the supervision or management works on the sustainability organ in the company, including the integration of sustainability target policies and remuneration	There is information about the supervision carried out on the sustainability organ and about the remuneration of the personnel/ individual of the sustainability organ.	No score 2	There is information regarding the supervision carried out on the sustainability organ. However, there is no information regarding the remuneration of the personnel/ individual of the sustainability organ.	There is no information presented in the annual report
7	Explanation of the role played by the board of directors and the management under them related to matters concerning sustainability and the interaction between the board of directors/management with specific organs related to sustainability.	There is information about the role of the directors and lower/ middle management regarding sustainability, and there is a narrative regarding the interaction of directors/management with the sustainability organ.	No score 2	There is information about the role of the board of directors and lower/middle management regarding sustainability.	There is no information presented in the annual report

Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
	A description of the significant sustainability risks and opportunities which may affect the company's business model, strategy and cash flow in the short, medium and long term				
8	A description of the process the company is implementing to identify significant sustainability risks and opportunities which may affect the company's business model, strategy and cash flow in the short, medium and long term	There is an explanation of the process of identifying sustainability risks and opportunities in all of the following aspects: (1) Company business model (2) Company strategy (3) Cash flow	There is an explanation of the process of identifying sustainability risks and opportunities in 2 of the three aspects below: (1) Company business model (2) Company strategy (3) Cash flow	There is an explanation of the process of identifying sustainability risks and opportunities in 1 of these three aspects: (1) Company business model, (2) Company strategy, (3) Cash flow	There is no information presented in the annual report
9	An explanation of the definition of short term, medium term, and long term and how the three timeframes are integrated with the strategic planning process and capital allocation in the company	There is an explanation of the impact of integrating the sustainability process with the company's strategy in 3 horizons: (1) long term, (2) medium term, (3) short term	There is an explanation of the impact of integrating the sustainability process with the company's strategy in 2 horizons: (1) long term, (2) medium term, (3) short term	There is an explanation of the impact of integrating the sustainability process with the company's strategy on one horizon: (1) long term, (2) medium term, (3) short term	There is no information presented in the annual report
10	Explanation of events that indicate sustainability opportunities or challenges, as well as analysis of the timeframe and impact of these risks and opportunities on the financial position	There is an explanation of the occurrence of opportunities or risks and a complete analysis of the period or the impact on financial position.	There is an explanation of the occurrence of opportunities or risks, and one of the analyses of the period or the impact of risks and opportunities on finances.	There is an explanation of the occurrence of opportunities or risks, but no analysis is provided	There is no information presented in the annual report
	Explanation of the impact of risks and opportunities related to sustainability on the company's business model				
11	description of the current and future impacts related to the risks and opportunities related to sustainability on the value chain of the production of goods or services	There is a complete description of the current impact and future impact on the entire value chain of the production of goods or services	There is a full explanation of the current impact and future impact on 50% of the value chain components of the production of goods or services	There is an explanation of the current impact on some or all components of the value chain of the production of goods or services	There is no information presented in the annual report
12	A description of which areas in the value chain experience the most significant risks and opportunities regarding sustainability	There is a complete explanation of the value chain with narrative and illustrations.	There is a complete explanation of the value chain with narrative only	There is an explanation of the value chain, but the problem area is not mentioned	There is no information presented in the annual report
	Explanation of the impact of risks and opportunities related to sustainability on management strategy and decision making				
13	Explanation of the company's response to the risks and opportunities of sustainability	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report

Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
14	The explanation for planned follow-up management of legacy assets (assets that are not reused)	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	To be completed if the company does not have legacy assets	There is no information presented in the annual report
15	Explanation of the previous year's follow-up related to the company's response to sustainability risks and opportunities, including for legacy assets	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
16	Explanation of the trade-offs that lead to the emergence of sustainability risks and opportunities, and financial aspects	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
17	An explanation of the extent to which sustainability risks and opportunities are integrated into decision-making related to the company's financial planning	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations.	There is an explanation of the company's response with a minimum length of ½ page without illustrations.	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations.	There is no information presented in the annual report
	An explanation of the significant impact of the company's sustainability opportunities and risks on the company's financial position, performance, and cash flow in a period and the anticipation of these impacts in the short, medium and long term				
18	A description of the significant impact of sustainability risks and opportunities on the company's current financial position, performance and cash flows	There is a complete explanation of the following three components: (1) cash flow, (2) financial position, and (3) performance	There is a complete explanation of 2 of the following three components: (1) cash flow, (2) financial position, and (3) performance	There is a complete explanation of 1 of the following three components: (1) cash flow, (2) financial position, and (3) performance	There is no information presented in the annual report
19	An explanation of management's expectations regarding sensitivity analysis or changes in a financial position related to the significant impact of sustainability risks and opportunities on investment aspects of the company's assets or finances.	There is a complete explanation of two aspects, asset investment and financial investment.	There is a complete explanation of one aspect: asset or financial investment.	No value 1	There is no information presented in the annual report
20	Explanation of management's expectations regarding sensitivity analysis or changes in a financial position related to the significant impact of sustainability risks and opportunities on the funding aspect of the company's activities	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report

Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
21	description of management's expectations of future financial performance about strategies for managing sustainability risks and opportunities	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
22	An explanation of the entity's assessment of the uncertainty that arises or management's judgments that must be prepared in the financial statements as a result of managing the risks and benefits of sustainability	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
23	Explanation of the resilience and strength of the company's strategy to address risks related to sustainability	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations.	There is an explanation of the company's response with a minimum length of ½ page without illustrations.	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations.	There is no information presented in the annual report
24	Explanation of the identification process for risks related to sustainability	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
25	Explanation of the process of assessing the significance of risks related to sustainability in the aspect of impact assessment and the possibility of occurrence, both quantitatively and qualitatively	There is an explanation of the quantitative and qualitative risk significance assessment.	There is only one explanation of the risk significance assessment: quantitative or qualitative.	No value 1	There is no information presented in the annual report
26	An explanation of the relevance/priority of handling sustainability risks relative to other risks, and the use of risk assessment tools	There is a narrative and illustrative explanation of the linkage of risk and the use of risk assessment tools.	There are narrative and illustrative explanations for the linkage of risks only.	No value 1	There is no information presented in the annual report
27	Explanation of the input parameters used in measuring sustainability risk	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
28	Explanation of innovations/changes in sustainability risk assessment methods, compared to last year	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
29	An explanation of how sustainability risks are mitigated, monitored and managed	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report



Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
30	This explanation of the integration of the identification, assessment, and sustainability risk management process is integrated with the company's risk management in general Metrics and Targets	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations.	There is an explanation of the company's response with a minimum length of ½ page without illustrations.	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations.	There is no information presented in the annual report
31	Explanation of the sustainability performance indicators (metrics) used, both for inter-industry metrics, industry metrics, or activity metrics	There are explanations for all metrics: (1) inter-industry metrics, (2) industry metrics, (3) activity metrics	There are explanations for 2 of the three metrics: (1) inter-industry metrics, (2) industry metrics, (3) activity metrics	There is an explanation for 1 of 3 metrics: (1) inter-industry metrics, (2) industry metrics, (3) activity metrics	There is no information presented in the annual report
32	Explanation between targets for sustainability performance indicators (metrics) set by management	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
33	Additional explanations to show progress in measuring sustainability performance in the company	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
34	Explanation of the targets set by management to mitigate sustainability risks and or increase opportunities related to sustainability	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
35	Explanation of the method of calculating sustainability performance	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
36	Explanation of the period for calculating sustainability performance	There is an explanation of the company's response with a minimum length of ½ page and complete with illustrations	There is an explanation of the company's response with a minimum length of ½ page without illustrations	There is an explanation of the company's response with a manuscript length of less than ½ page, with or without illustrations	There is no information presented in the annual report
37	Explanation of the basis/ time basis for calculating sustainability performance	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report
38	Explanation of the main milestones or interim targets	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report

Quality of IFRS S1 reporting matrices					
No	Description	3	2	1	0
		Good	Sufficient	Poor	No information
39	An explanation of the external parameters used to determine the performance or the competent party's validation of the performance determination	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report
40	Explanation of sustainability performance metrics or indicators to assess the achievement of sustainability targets and strategic objectives	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report
41	Explanation of the realisation of the company's sustainability performance compared to the target	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report
42	Explanation of trends or significant changes in the realisation of the company's sustainability performance	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report
43	Explanation of the data for the calculation of sustainability performance, including assumptions and data limitations	There is an explanation of the company's response with a minimum length of 1/2 page and complete with illustrations	There is an explanation of the company's response with a minimum length of 1/2 page without illustrations	There is an explanation of the company's response with a manuscript length of less than 1/2 page, with or without illustrations	There is no information presented in the annual report.