ASSESSING SUSTAINABILITY REPORTING PRACTICES IN ASEAN MINING COMPANIES: A DISCLOSURE ANALYSIS

Assessing Sustainability Reporting Practices in ASEAN Mining Companies: A Disclosure Analysis

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Abstract

The mining industry in the ASEAN Region impacts the firms' responsibility for the economy, environment, and social aspects as part of their sustainability measures presented in their annual reports. The study was undertaken to determine the significant difference and predict the financial statement sustainability reporting based on the firms' age, size, geographical location, and profitability. The study employed qualitative-descriptive, non-experimental research designs to carry out the objective of the study. Content Analysis was used to investigate the data to quantify the 30 mining companies' corporate disclosures. Kruskal Wallis Test and ANOVA table from regression were employed to determine the significant differences and predict the sustainability reporting disclosures. Results revealed that geographical location when paired with the social aspect, has a significant difference and no significant difference when paired with economy and environment. Also, the company's age, size, and profitability have no significant difference when paired with the economic, environmental, and social aspects, respectively. Further results revealed that the grouped company profiles such as age, geographical location, size, and profitability did not predict the extent of financial statement sustainability disclosure among the mining companies in the ASEAN Region.

Keywords: *corporate social responsibility, mining companies, sustainability report, triple bottom line*

Introduction

The Association of Southeast Asian Nations (ASEAN) territory possesses vast resources, including natural resources, with tremendous potential for new discoveries. Minerals have emerged as Asia's key economic drivers. The value of ASEAN's mineral trade has grown thrice in the last decade, from USD14 billion in 2004 to USD44 billion in 2013, resulting in more significant socioeconomic activity and infrastructural development throughout the region (The ASEAN Secretariat, 2016).

The mining sector in the ASEAN territory is a crucial contributor to the region's economic growth. It also substantially impacts the development of national human and economic security. The sector has a vital role at the regional level in aiding ASEAN in reaching the ASEAN Economic Community's 2025 aim, which includes regional sustainability. Promoting sustainable mining policies and practices among Southeast Asian nations is critical.

In Malaysia, for example, the government intends to minimize pollution and promote safety in the mining industry by implementing automation and sustainable practices such as using remote-controlled hybrid excavators. It is recommended that stakeholders in Southeast Asia focus on promoting and facilitating intra- and extra-ASEAN trade and investment in the mining industry to meet the goals established for sustainable mining policies and practices. As a result, the need for mining corporations to apply innovation and technology that improves environmental and social responsibility must be included at the regional level. Currently, policy fragmentation regarding the integration of social and environmental responsibilities adds to regional disparities in action toward achieving sustainable mining (Pimpa, 2016).

Furthermore, the mining sector has reaped so much riches from the environment that some may have neglected to protect and preserve the ecosystem that helped them reach their commercial goals (Tubay & De Leon, 2019). According to Kumah (2006), as reported by Tubay and De Leon (2019), mining operations such as gold in impoverished nations do not help the surrounding populations. Simeon (2017) points out that 41 mining firms with 28 operations had been shut down in the Philippines for allegedly depositing nickel laterite stains in rivers, rice fields, and watersheds. Similarly, according to the Aljazeera (2021) website, Asia's coal-fired power facilities are being shut down to minimize the largest source of carbon emissions. Coal-fired electricity accounts for one-fifth of global greenhouse gas emissions, making it the most polluting source. Given that individuals do not work in mining operations daily, there must be a means to document and convey how these businesses safeguard the environment. One such method is Sustainability Reporting.

The future of sustainability reporting standards examines advances in established and developing countries and suggests steps businesses may take to navigate and prepare for new sustainability reporting requirements. Some companies will change their ways due to this obligation, as they now only report on sustainability when mandated by law. As regulators, the International Financial Reporting Standard (IFRS) and Global Reporting Initiative (GRI) will progress on sustainable reporting requirements. Companies will have a fantastic chance to plan for future disclosures and commit to openness and accountability. Companies will need to consider reporting across environmental, social, and governance problems, while the IFRS and other regulatory measures are likely to take a climate-first approach. According to Oxford Analytica and Ernst and Young's study, the future of sustainability reporting standards offers the following five suggestions based on research undertaken by Oxford Analytica and EY: Do not wait for sustainability reporting to become a legal requirement; put sustainability, environmental, social, and governance reporting on the board's agenda; build trust in sustainability reporting as a top priority; integrate the financial function and participate in the standard-setting process (Di Sibio & Bhowmik, 2021).

Research Questions

This study investigates the variation in annual report disclosures of mining firms' sustainability initiatives based on geographical location, business size, age, and profitability. Specifically, this study sought to answer the research questions below to wit:

1. Is there a significant difference in the financial statement disclosure of mining companies in ASEAN countries in terms of geographical location, company size, age, and profitability?
2. Do the grouped company profiles predict financial statement disclosure of mining companies in the ASEAN countries in terms of economic, environmental, and social aspects?

Literature Review

In 2019, research was undertaken in the Philippines to assess the extent of sustainability reporting using content analysis of the websites of the publicly listed mining firms in the country. The study's findings reveal a substantial and positive relationship between economic, environmental, and social disclosures and company size, implying that the country's publicly listed companies seek to establish a balance in revealing their activities to these several categories. It suggests that, even though the number of disclosures for each category differs, they all went in the same direction. The pace of increase, however, fluctuates depending on the available resources and their sizes (Tubay & De Leon, 2020).

Khasharmeh and Desoky (2013), in their study on the amount of online CSR disclosure of companies listed on the stock markets of the Gulf Cooperation Council (GCC), found out that environmental, employee, community and social participation, and product are among the considerable variation disclosures. All models run in the multiple regression analysis were significant except for community and social engagement disclosures. Arena et al. (2018) pointed out that CSR disclosure across the ASEAN region had increased. It has been evidenced in Indonesia and Malaysia, where sustainability disclosure is part of their reportorial requirement.

Moreover, countries that require sustainability reporting have low levels of disclosures compared to voluntary reporting. Accordingly, CSR awards are also linked to openness. Additional analysis shows the substitution effect between voluntary and coercive incentives in countries with high levels of law enforcement.

Sustainability Reporting

Sustainability reporting began in the 1990s, when a few companies, usually large multinationals, began documenting their operations' environmental and social consequences in their annual reports. Sustainability reporting may help organizations of all sizes – in all industries and all parts of the world – better understand and manage their economic, social, and environmental impacts, reduce risks, and embrace new opportunities. It establishes the framework for transparency and open communication about the repercussions. It reflects the rising need for responsible business practices across various stakeholders, including investors, lawmakers, financial markets, and civil society (GRI, 2020).

Chiong (2010) reported that several companies have started to disclose their environmental and social performances in reports other than the financial statements. These were included in the annual report along with its financial results. Moreover, several companies began to publish their environmental and social performance activities on their websites in the late 1990s. Many businesses started tracking their environmental and social implications in their reports and the concerns and issues communicated to their stakeholders.

Motivations of Organizations to Disclose their Sustainability Performance

Sustainability disclosure identifies and justifies a company's strategy and strategies for dealing with social and environmental issues (Swarnapali, 2020). Companies willingly provide their sustainability performance information for various reasons, one of which is verifying their existence. With this, the corporate entity will get its acceptance by the community. It follows the license to operate from the community to proceed and continue with its operation, and the corporate entity would share the sustainability performance with the community. With this, the justification of existence is explained.

On the other hand, if a firm fails to give the community information about its sustainability performance, the community will view this as a breach of a social contract. As a result, the community would not support the company, and its operating license would be revoked, putting its future in danger. Another reason why companies publish their sustainability performance statistics is that their stakeholders have a right to know. The Stakeholder Theory emphasizes that in addition to the owners and management, other parties involved in the business, such as suppliers, consumers, and rivals, are equally important stakeholders. The other stakeholders' ability to influence the firm determines their involvement. Indeed, stakeholder theory has served as the foundation for various governance-related research projects since its inception (Mohammed et al., 2017). Chowdhury et al. (2023), in their study, found that competitive advantage influences environmental certificates leading to voluntary disclosures.

Moreover, corporations are also compelled to submit their sustainability performance figures due to institutional restrictions. Institutional theory dictates that businesses are exposed to numerous institutional influences, such as when a company's management refuses to accept new practices compared to other companies that have implemented sustainability reporting. There is a chance that the company's financially powerful stakeholders will not supply the essential assistance in such a situation (Chiong, 2010). Another theory

that helps explain sustainable reporting is the Positive Accounting Theory (PAT) (Belkaoui & Karpik, 1989; Milne, 2002).

Global Reporting Initiative (GRI)

As illustrated by the triple bottom line, which incorporates financial, social, and environmental aspects, organizations should provide sustainability performance information that meets the different information expectations of their diverse stakeholders in an ideal world. On the other hand, many firms rely on sustainability reporting guidelines like the GRI Corporate Sustainability Reporting Guidelines for guidance on what to disclose to their stakeholders in practice. The rationale for using the guidelines rather than identifying and providing specific information content to respective stakeholders stems from the fact that organizations such as GRI conducted extensive research to determine the information needs of a diverse range of stakeholders before developing the guidelines (GRI, 2020). These reports are deemed to meet the information needs of most report customers. Users of financial reports with specific information needs might ask for customized financial reports from the company.

Organizational performance may be compared over time and benchmarked against laws, norms, codes, performance standards, and voluntary efforts using sustainability reports based on the GRI Framework. They can also show an organization's commitment to long-term sustainability (GRI Annual Report, 2020). GRI promotes and develops this standardized reporting technique to boost demand for sustainability data, which will benefit reporting companies and those who use it.

Methodology

Research Design

The researchers conducted quantitative research to investigate mining corporations' sustainability disclosure in ASEAN nations. The study employed qualitative-descriptive, non-experimental research designs to carry out the objective of the study. The population comprises the top five mining corporations in each of the ASEAN countries listed in the stock markets. Bursa Malaysia, Hanoi Stocks Exchange (HNX), HoChiMin Stock Exchange (HOSE), Indonesia Stock Exchange (IDX), Philippine Stock Exchange (PSE), The Stock Exchange of Thailand (SET), and Singapore Exchange (SGX) are the seven stock markets in the ASEAN region. The HoChiMin Stocks Exchange (HOSE) and the Hanoi Stocks Exchange (HNX) are the two stock markets in Vietnam; however, HOSE does not cover the mining industry.

Respondents

Secondary data were used in this investigation. The data were gathered directly from the annual reports of the top five mining firms listed on the stock exchanges of ASEAN member nations that were published on their respective websites. These countries ensure a representative sample of the largest mining corporations in their respective countries considering that they belong to the top five largest companies based on their total assets. The study examined the annual report for the year 2021. Various sections of the annual reports were carefully studied and analyzed, particularly on their different initiatives related to the environment, the people, and the economy.

A purposive sampling strategy was applied in this study. The researchers specifically chose the countries which are members of the Association of Southeast Asian Nations (ASEAN). Only the top five countries were chosen based on their total assets as disclosed in their respective stock exchanges. Given that ASEAN member countries have a number of characteristics, the researchers sought to gather helpful material to aid their research.

Instrument

The researchers rely on secondary data, notably annual reports on the websites of the top five (5) mining corporations listed on the ASEAN countries' stock exchanges. The yearly reports were assessed using a content analysis checklist adapted from (Joseph et al. 2014). If an item on the checklist is included in the annual report, it is given a score of one (1); if it is not, it is given a score of zero (0). The scores of each line item were then added to get a score for each group (environmental, social, and economic) (Tubay & De Leon, 2020).

Procedure

The researchers began by looking into the current member nations of the ASEAN and then the nations with stock markets from among the member countries. It was discovered that there are ten (10) ASEAN members. Only six (6) of them, however, have stock exchanges. The researchers selected the top five publicly traded mining corporations from those listed in the stock markets. A total of 30 mining firms were evaluated in terms of their sustainability disclosure, encompassing the triple bottom line of CSR, namely environmental (planet), social (people), and economic (profit) aspects. The data collected was based on the selected firms' annual reports, websites, and sustainability reports produced in 2021. The researchers looked at the websites of the companies' annual reports to see if they incorporate information on sustainability. Based on the created disclosure checklist, the substance of mining firms' sustainability disclosure was further assessed.

Data Analysis

The information gathered was examined using Content Analysis, also known as Disclosure Abundance (Harwood & Garry, 2003). The

content analysis is carried out by counting and comparing the existence or absence of criteria related to sustainability disclosure in the mining company's annual report. Content analysis is the most extensively utilized statistical tool for quantifying corporate sustainability disclosure (Ganda, 2019). The natural logarithm of total assets and the natural logarithm of net income are employed in the financial statements to assess the company's size and profitability. The number of years a mining firm has existed establishes its age, whereas the location of the mining activity determines its location. Both are derived directly from mining firms' annual reports and published financial statements, which are available on their websites (Tubay & De Leon, 2020).

The researchers applied the Shapiro-Wilk normality test to assess the normality of data distribution before estimating the significance of discrepancies in website disclosures. The researchers only decided which statistical instrument to use to test the significant difference at this point. After finding the normally distributed data, the Kruskal–Wallis H test was used to detect the significant difference. It is commonly known as the "one-way ANOVA on ranks," is a nonparametric rank-based test that may be used to see if two or more groups of an independent variable on a continuous or ordinal dependent variable have statistically significant differences. It's a nonparametric alternative to one-way ANOVA and a Mann-Whitney U test extension that allows you to compare more than two independent groups (Laerd Statistics, 2018).

Furthermore, cluster analysis was used to generate a fair grouping of the mining businesses' size, age, and profitability before determining the significant difference. Failure to do a cluster analysis will result in comparing 30 groups in terms of size, age, and profitability. Lastly, the ANOVA table from the regression model was used to determine if the grouped company profile predicts the extent of financial statement disclosure among companies in the ASEAN Region.

Results and Discussion

This study executed a set of tests of difference. The Kruskal-Wallis H test is used to determine the statistically significant differences between two or more groups of an independent variable on a continuous variable.

Table 1. *Test of Significant Difference between Company Profiles when paired with Financial Statement Sustainability Disclosures*

Company Profiles	Financial Statement Sustainability Disclosures								
	Economy			Environment			Social		
	Chi-Square	Sig.	Interpretation	Chi-Square	Sig.	Interpretation	Chi-Square	Sig.	Interpretation
Size	0.753	0.686	Not Significant	1.558	0.459	Not Significant	1.224	0.542	Not Significant
Geographical Location	8.191	0.146	Not Significant	10.266	0.068	Not Significant	11.890	0.036	Significant
Age	2.296	0.807	Not Significant	1.944	0.857	Not Significant	2.499	0.777	Not Significant
Profitability	1.546	0.462	Not Significant	3.398	0.183	Not Significant	5.382	0.068	Not Significant

The results show that not all company profiles differ significantly when paired with the financial statement sustainability disclosure. Table 1 reveals that only geographical location is statistically significantly lower than the p-value of .005 when paired with social with a p-value of 0.036. The other variables did not differ significantly: Company size paired with the economy, environment, and social; Geographical location paired with economy and environment; age and profitability paired with the economic, environmental, and social aspects.

The variable geographical locations have a significant difference when paired with social. Botan, Ilovan, and Pop (2005) state that geographical location and sustainable social development brought public attention that gave an idea to encourage harmonious relations between humans and nature. This means that geographical location can affect its sustainability reporting when disclosed in the company's financial statements.

In addition, there is no significant difference when geographical location is paired with economy and environment. It means that the profile of the ASEAN companies in terms of their geographical location does not affect the extent of sustainability reporting as far as economy and environment disclosures are concerned. In other words, the location of a company will not affect its financial statement sustainability disclosure's information in terms of economy and environment whether they will disclose it or not.

Moreover, the profile of ASEAN companies in terms of size, age, and profitability does not affect the extent of reporting in its financial statement sustainability disclosures as to the economic, environmental, and social aspects. It is supported by the study of Arena et al. (2018) that a country that requires sustainability reporting can have a low level of disclosure. However, the result of the study is inconsistent with the study of Khasharmeh and Desoky (2013), that environmental, employee, community, and social participation are the important variables for disclosure.

In other words, a company's size, age, and profitability do not affect its financial statement's credibility, whether it will disclose sustainability aspects or not.

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Factors Predicting the Financial Statement Disclosure of Mining Companies When Grouped According to Company Profile

This study executed the ANOVA table from the Regression result to determine if the grouped company profiles predict the financial statement sustainability disclosure in terms of economic, environmental, and social aspects.

Table 2. *Regression ANOVA Table for Factors Predicting the Financial Statement Disclosure of Mining Companies When Grouped According to Company Profile*

| Grouped Predictors | Financial Statement Disclosure | | | | | | | | |
| | Environment | | | Economy | | | Social | | |
	F value	Sig.	Interpretation	F value	Sig.	Interpretation	F value	Sig.	Interpretation
Size, Geographical Location, Age, and Profitability.	1.792	0.178	Not Significant	1.258	0.313	Not Significant	1.589	0.220	Not Significant

The results show that the grouped company profile variables did not predict significantly the financial statement sustainability disclosures as to environment with $F_{(3,22)} = 1.792$, p= 0.178; economy with $F_{(3, 22)} = 0.258$, p = 0.313; and social with $F_{(3, 22)} = 1.589$, p= 0.220. The result of the study is inconsistent with Naryana (2020), as the study states that companies provide their sustainability disclosures willingly to verify their existence. In addition, the study did not support Chiong (2010) that several companies have started to disclose their environmental and social performances in different reports other than the financial statements. These were included in the annual reports along with their financial result.

Moreover, the company's profile did not predict the extent of sustainability reporting in the financial statements. In other words, age, geographical location, size, and profitability are not the factors that can predict the financial statement sustainability disclosure among the ASEAN mining companies.

In short, geographical location, size, age, and profitability when grouped do not predict the extent of sustainability reporting in the financial statements of the mining companies in the ASEAN Region.

Conclusions

The result of the study revealed a significant difference in the company disclosure as to geographical location when paired with the social aspect. Therefore, the null hypothesis that there is no significant difference when sustainability disclosure is paired with geographical location and social aspect is rejected but accepted as to economy and environment. Likewise, financial statement sustainability disclosure regarding economic, environmental, and social aspects is accepted when paired with company size, age, and profitability.

The second null hypothesis that grouped company profiles predicts financial statement sustainability disclosure is accepted as to economy, environment, and social aspects. Based on the results, there is a need to improve the sustainability disclosures of ASEAN countries in terms of the social aspect. It is important for mining companies to disclose their different plans and programs for the people especially surrounding the mining companies. It is therefore recommended that stockholders must require mining companies to clearly report their various CSR activities voluntarily, showing that they also protect the interest of the stakeholders that they responsibly conduct their business operations.

References

Al-Nasser Mohammed, S., Abdullah Saif, & Muhammed, J. (2017). The relationship between agency theory, stakeholder theory and shariah supervisory board in islamic banking: An attempt towards discussion. Humanomics, 33(1), 75-83.

Alidade MER. (2019) The Accountability Model. Retrieved on December 20, 2021. Retrieved from https://alidade-mer.com

Amoako, K. O., Lord, B. R., & Dixon, K. (2017). Sustainability reporting: Insights from the websites of five plants operated by Newmont Mining Corporation.Meditari Accountancy Research; Pretoria Vol. 25, Iss. 2, 186-215.

APEC Publications. (2014). Instructors-Guidebook/2013-CSR-in-Mining-for-APEC-Economies-Instructors-Guide-Book.pdf . Retrieved on November 10, 2021 Retrieved from http://APEC.org.

Arena, C., Liong, R., & Vourvachis, P. (2018). Carrot or stick: CSR disclosures by Southeast Asian companies. Sustainability Accounting, Management and Policy Journal Vol. 9 No. 4, 422-454.

ASEAN. (n.d.). Retrieved on November 20, 2021. Retrieved from https://asean.org.

Belkaoui, A.R., G. Karpik, 1989, "Determinants of the Corporate Decision to Disclose Social Information", Accounting, Auditing and Accountability Journal, vol. 2, No. 1, p. 36-50

Böhling, K., Murguía, D. I., & Godfrid, J. (2019). Sustainability reporting in the mining sector: Exploring its symbolic nature. Business

& Society, 58(1), 191-225.

Botan, C., Ilovan, O.,& Pop, A. (2005). The geographical region and sustainable development. Romanian Review of Regional Studies,1 (1), 85-90.

Carvalho, F., Santos, G., & Goncalves, J. (2018). The disclosure information on sustainable development on the corporate website of the certified Portuguese organizations. International Journal for Quality Research, 253-276.

Chiong, P. T. (2010). An Examination of Corporate Sustainability Disclosure Level and Its Impact on Financial Performance.

Corporate Finance Institute. (n.d.). Introduction to Mining Industries. Retrieved on November 10, 2021. Retrieved from https://corporatefinanceinstitute.com:

Daizy, & Das, N. (2015). Sustainability Reporting Practices In Indian Mining Companies. Current World Environment Vol. 10(2), 641-655.

Deegan, C. M. (2019). Legitimacy theory: Despite its enduring popularity and contribution, time is right for a necessary makeover. Accounting, Auditing & Accountability Journal, 32(8), 2307-2329. http://dx.doi.org/10.1108/AAAJ-08-2018-3638

Di Sibio, C., & Bhowmik, R. (2021, June 21). World Economic Forum. Retrived on November 10, 2021. Retrieved from weforum.org.

Ganda, F. (2019). The Relationship between Corporate Sustainability Disclosure and Firm Financial Performance in Johannesburg Stock Exchange (JSE) Listed Mining Companies. Sustainability; Basel Vol. 11, Iss. 16.

Global. https://www.philstar.com/business/2017/02/03/1668392/denr-closes-21-mining-firms

Global Reporting Initiative Annual Report (2020)

Harwood, T. G., & Garry, T. (2003). An overview of content analysis. The marketing review, 3(4), 479-498.

Joseph, C. (2010). Content analysis of sustainability reporting on Malaysian local authority websites. The Journal of Administrative Science, 101-125.

Joseph, C., Lin, V.C.S., Nichol, E.O., Jussem, P.M. (2014), Sustainability Disclosure on Malaysian Hotel Websites. Corporate Social Responsibility Disclosure and Sustainability Reporting 2 Conference Paper.

Khasharmeh, H. A., &. Desoky, A. M. (2013). Online Corporate Social Responsibility Disclosures: The Case of the Gulf Cooperation Council (GCC) Countries. Global Review of Accounting and Finance, 39-64.

Laerd Statistics. (2018). Spss Tutorials. Retrived on December 30, 2021 from https://statistics.laerd.com.

Lauwo, S., Otusanya, O., & Bakre, O. (2016). Corporate Social Responsibility Reporting in the Mining Sector of Tanzania. Audit Account Journal, 1038-1074.

Milne, M. J., 2002, "Positive Accounting Theory, Political Costs, and Social Disclosure Analysis; a Critical Look", Critical Perspectives on Accounting, vol. 13, pp. 369 395.

Miklosik, A., & Evans, N. (2021). Environmental sustainability disclosures in annual reports of mining companies listed on the Australian Stock Exchange (ASX). Heliyon, 7(7).

Perez, F., & Sanchez, L. E. (2009). Assessing the evolution of sustainability reporting in the mining sector. Environmental management, 43, 949-961.

Pimpa, N. (2021). Sustainable Mining: The ASEAN Perspectives. Juniper Publishers.

SEC. (2019). Sustainability Reporting Guidelines of Publicly Listed Companies. Manila.

Secretariat, A. (2020). ASEAN Minerals Cooperation Action Plan 2016-2025. Jakarta: AMCAP-III.

Secretariat, T. A. (n.d.). Association of Southeast Asian Nations. Retrieved on November 10, 2021 from https://asean.org.

Simeon, L. M. (2017, February 3). DENR closes 21 mining firms. PhilStar

Swarnapali, R. N. C. (2020). Sustainability disclosure and earnings informativeness: evidence from Sri Lanka. Asian Journal of Accounting Research, 5(1), 33-46.

Suen, L.-J. W., Huang, H.-M., & Lee, H.-H. (2014). A Comparison of Convenience Sampling and Purposive Sampling. Taipei Vol. 61, Iss. 3, 105-111.

Tubay, J. B., & De Leon Myra, V. (2020). Website Sustainability Disclosure Analysis: A Case of Publicly-Listed Mining Companies in the Philippines. International Journal of Energy Economics and Policy, 23-30.

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