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Do CEO narcissism and board gender diversity influence the sustainable reporting of energy companies in Southeast Asia?

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Abstract

This study aims to analyze the factors that can influence sustainability reporting practices of energy companies in Southeast Asia. In particular, this study examines two factors, namely CEO narcissism and board gender diversity, which may influence sustainability reporting practices of energy companies in four countries: Indonesia, the Philippines, Thailand, and Malaysia. This study utilized content analysis of annual reports over a three-year period from 2017 to 2019 as the basis for data collection, resulting in 198 pieces of data over the entire period. The results of this study show that CEO narcissism and board gender diversity have a significant impact on the sustainability reporting of energy companies in the four Asian countries. Furthermore, the results of this study show that board gender diversity and CEO narcissism simultaneously have a significant impact on the sustainability reporting of energy companies. It is expected that this study will make a valuable contribution to the existing literature and serve as a reference point for future studies aimed at advancing knowledge and scholarship. The findings of this study not only provide a substantial contribution to the existing body of knowledge, but they also serve as a point of reference for further investigation into the field of sustainability reporting. This study can serve as a valuable reference for future research on the impact of corporate sustainability reporting in Southeast Asia.

Keywords: Board Gender Diversity, CEO Narcissism, Energy companies, Sustainability Reporting, Signature Size, Female Board.

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1. Introduction

Energy consumption in Southeast Asia is experiencing a significant increase compared to other Asian regions, primarily due to strong economic growth. The ASEAN Centre for Energy [1] predicts a rise in the amount of oil equivalent from 556.4 to 1,414 million metric tonnes by 2030. As a result, it is projected that carbon dioxide emissions will increase by approximately 2.5% per year, reaching a range of 1,354 to 1,962 gigatons between 2015 and 2030 [2]. In 1997–1998, Southeast Asia experienced a significant instance of pollution, which resulted in an estimated economic, environmental, and social damage of nearly USD 9 billion for the region [1]. Hence, there is a growing need for sustainability in the global economy, with special emphasis on Southeast Asia [3]. Corporate sustainability acknowledges the significance of a company's growth and profitability, along with its commitment to other societal objectives [4]. This information is often included in the firms' annual reports. As an example, one may see the company's involvement with various stakeholders, such as workers, citizens, and the government, as external entities. Furthermore, it is possible to evaluate the company's execution of environmental enhancement strategies, such as waste minimization and pollution mitigation. The annual report, which includes sustainability reporting, provides consumers with a plethora of information and essential tools for decision-making.

Currently, there is a lack of universally acknowledged international benchmarks for sustainability reporting. The Global Reporting Initiative (GRI) offers a conceptual framework for global leaders to effectively execute their sustainable business goals [5]. The GRI offers assistance to organizations seeking to disclose their sustainability initiatives [6]. Sustainability reporting refers to the transparent and quantifiable act of freely disclosing a company's performance to external and internal stakeholders with the aim of promoting sustainable development [7]. Although the GRI framework has been widely embraced as a global standard for reporting, it still faces several challenges and deficiencies that require attention. The 2006 Corporate Watch Report identified an issue regarding the lack of established standards to assess the disclosure of corporate sustainability reporting [8]. Hence, the implementation of sustainability reporting is contingent upon the internal aspects related to the organizations [9]. Two internal variables that significantly influence a company's organizational structure are the characteristics exhibited by the chief executive officers (CEOs) and the board of directors, who hold high-ranking positions within the company.

CEOs are often required to exhibit openness, responsibility, and the capacity to mitigate unwarranted risks. Nevertheless, there are narcissistic CEOs who display a malevolent personality trait commonly observed in CEOs, which is linked to the overall performance of the business [10]. These characteristics often result in unethical behavior due to a feeling of superiority and the need to satisfy an inflated ego. The financial and sustainability report is very susceptible to the impact of this activity, resulting in significant consequences [11]. The board of directors, on the other hand, significantly influences corporate sustainability and the overall performance of the business. Hence, a proactive, strategic, and effective board is crucial for achieving success and generating top-quality reports. An inclusive board, including women and individuals from all backgrounds, is vital to fostering a broader spectrum of ideas and viewpoints during board sessions. Women often seek to enhance their image and achieve elevated social standing within businesses and society, particularly in comparison to men. [12].

This study investigates the influence of CEO narcissism and board gender diversity on sustainability reporting across energy corporations operating in Southeast Asia. The findings of this study provide a significant addition to the current knowledge base and establish a point of reference for future research in the area of education. The second section of this study offers a thorough examination of the relevant literature. Section 3 elucidates the research design used in this study. Section 4 presents the findings and further analysis. Section 5 concludes the study.

2. Literature Review

2.1. Sustainability Reporting

The concept of sustainability accounting emerged in the 1990s when the European Union introduced a program to support its members in the development of environmental accounting methods and the implementation of guidelines [13]. Over the course of several decades, academics and accounting experts have continued to develop and research the subject. In his study, Lamberton [13] succinctly outlined the development of sustainability accounting up to the publication of the Sustainability Reporting Guidelines at the 2002 World Summit. These guidelines served to standardize various methods and create a framework for sustainability accounting. The result was a major challenge for commercial organizations, as the framework is very complex and places many demands on a comprehensive and globalized implementation of the standard. It is critical to meet this requirement, as it will improve an organization's accountability for its ongoing sustainability. The inclusion of economic, environmental, and social components in reporting is essential for the production of comprehensive and high-quality reports, which leads to the establishment of the GRI [14, 15].

Many companies typically view sustainability accounting as less significant compared to commercial or financial accounting. The limited attention and study in this field may be attributed to concerns over the proliferation of social accounting and its impact on managers [16]. Furthermore, the belief that sustainable accounting plays a crucial role in determining how accounting and management systems can effectively reduce their adverse effects on sustainability. Their analysis suggests that future research should prioritize enhancing the execution of sustainability reporting in firms. Several factors have been identified that may motivate managers or companies to evaluate sustainability concerns [17]. Among them are:

- Greenwashing: Management motivation for signalling concern and collecting data might be one of the reasons for dealing with sustainability accounting rather than increasing the quality of sustainability.
- Self-regulation: A voluntary move in which a firm or industry organization limits its actions or commits to non-market activities. The firm wishes to improve its image and performance in a voluntary manner, bearing in mind that commercial advantage or profit may be significant but not always the primary motivation.

- Mimicry and Industry Pressure: Mimicry may be a motive for a company to do sustainability accounting, where they feel the pressure to do the same thing as their competitors, who already have sustainability reporting, and also to gain a better opinion from their stakeholders.
- Legislative Pressure: Stakeholder pressure and the introduction of mandatory information for "permit to operate" through government legislation or the ministry are other possibilities to compel companies to implement sustainability accounting.
- Corporate Responsibility and Ethical Reasons: People often see a company as identifying with a person. It's not rare for a company to engage in various social and environmental activities, like scholarships, going green, or helping low-to-middle-income businesses in their operational areas, which can affect how people perceive them, thereby boosting their public image. Sometimes, long-term social activities might benefit a company in its business, which may be the reason why they have a sustainable accounting policy and provide sustainability reporting.
- Managing the Business for Sustainability: Another reason for implementing sustainability accounting is identifying and realizing the final purpose of economic and environmental responsibility and long-term economic benefit. A prosperous and healthy consumer will help a company grow and increase its business.

2.2. Sustainability Reporting and GRI

In highly developed nations, such as several European countries and the United States, stakeholders place great importance on sustainability reports as a crucial aspect of their companies' growth and profit-seeking endeavors [18]. Government entities and stakeholders in sustainable development are increasingly prioritizing this dimension, as individuals have come to recognize that social and environmental considerations within business operations are within the purview of the enterprise as the primary agent of production. Hence, it is essential for a company to engage in high-quality sustainability reporting in order to attract more investors and streamline the process of obtaining government authorizations.

Recently, there has been a growing recognition among academics and experts about the significance of sustainability reporting as the focal point of sustainable development and community [19]. Sustainability is now being valued as a significant asset that goes beyond typical economic values. The fundamental purpose of sustainability reporting is to elucidate additional facets that are not disclosed in financial reporting, specifically the social and environmental aspects that the corporation values [20]. Both are crucial since they delineate the manner in which a company engages with its workers, customers, and the surrounding natural environment. Additionally, they serve as an integral part of effective corporate governance and enhance the level of openness within the organization. Environmental and social disclosure is essential due to the limitations of financial disclosure in fully revealing the debt, risk, and return of corporations [21]. Sustainability reporting has become a prominent standard for evaluating corporate governance among many stakeholders. This aligns with the progressive rise in the use of sustainability reporting in developing nations within Southeast Asia.

Sustainability reporting involves the measurement, disclosure, and accountability of an organization to both internal and external stakeholders [1, 22]. A typical GRI report consists of five sections that serve as recommended guidelines for companies.

1. Vision and Strategy: Describe the company's trajectory decisions, including major strategies to achieve sustainable development, as well as statements from the company's board and CEO.
2. Profile: A general overview of the company's structure and activities, as well as the scope of the report.
3. Governance structure and management system, a section that informs about a company's policies, the company's governance structure, and management cores and systems for implementing sustainable development activities and monitoring.
4. GRI Context Index: Location of information provided by the organization, usually described in a table.
5. Performance indicators are quantitative measures based on the disclosure of a company's economic, social, and environmental performance.

2.3. CEO Narcissism and Sustainability Reporting

Narcissism, a common dark personality trait, is often observed in CEOs because of its impact on organizational results. Narcissism is a personality disorder characterized by an exaggerated sense of self-importance and a strong ego, leading to a desire for admiration and increased attention. These traits often lead to unethical behavior due to a feeling of "superiority" and satisfaction of the inflated ego. The financial report and the sustainability report are among the most important platforms that can be affected. Both of these disclosures relate to the CEO and company narrative, which are commonly used as benchmarks for evaluating company performance. CEOs often manipulate these disclosures to demonstrate their competence and gain recognition from investors and stakeholders [10].

The study of narcissistic traits exhibited by CEOs can be linked to a management theory [23]. An organization's engagement with its environment is reflected in the quality and worth of its top-level employees or executives [23]. Strong leadership at the top of an organization can lead to favorable results in carrying out tasks, creating policies, and making long-term plans, especially when the organization is operating at its highest level of performance [24]. This conclusion is valid because the leaders and top management of an organization have a pivotal role in determining its course. Their values, traits, and life experiences significantly impact their capacity to understand and analyze information. This can affect the executives' comprehension and interpretation of crucial information, their inclination to selectively perceive desired information, and their focus on achieving specific objectives based on the information they receive.

A CEO with narcissistic tendencies may have several detrimental effects on a business, ultimately compromising the organization's functioning both directly and indirectly. The presence of a narcissistic CEO is often associated with dubious decision-making in business practices and a propensity for high-risk ventures, which may potentially leave the company in a precarious position [11]. Hence, the Board of Directors has a substantial impact on corporate governance, thereby guiding the long-term operations of the company and safeguarding the interests of stakeholders within the organization. A board with favorable attributes and efficient functioning may facilitate successful management, leading to the establishment of good corporate governance. This, in turn, helps to mitigate the presence of unequal knowledge across management levels and reduce the prevalence of excessive profit manipulation [25]. In summary, the board of directors has the ability to establish a favorable organizational climate and mitigate conflicts of interest between agents and principals.

2.4. Board Gender and Sustainability Reporting

The board of directors plays an important role in shaping corporate social responsibility and the overall success of the organization. Therefore, an imaginative, analytical, and well-structured board is crucial for success and the production of high-quality reports. A diverse board, including women, is necessary to encourage a wider range of ideas and perspectives in board meetings. Women primarily want to improve their image and achieve a higher social status both within the organization and in society at large [26]. Female directors often strive to enhance the social image of their organization by increasing social contributions and securing funding from external stakeholders [27]. Unlike men, who tend to prioritize economic considerations, women have a greater sense of duty and emotional commitment to contributing to corporate social responsibility. They possess a strong ethical compass, are skilled communicators, and demonstrate a stronger commitment to social causes [28].

Studies have shown that it is crucial for companies to exercise greater discretion when selecting the CEO who will lead the organization. The use of female leaders is a commonly used strategy to reduce the risk of having an aggressive and narcissistic leader [29]. Women tend to exhibit higher levels of transparency, ethical behavior, and fairness compared to men, which reduces the likelihood of narcissistic leaders. In addition, women are more inclined to engage in risk-taking behavior and are more likely to plan for the long term, as opposed to men, who often focus on short-term thinking [28]. Female leaders tend not to engage in corrupt practices, misbehavior, or scandals. Therefore, it is imperative to have women in the boardroom to improve the quality of corporate disclosure [25]. This is in line with gender theory, which analyzes and interprets the concepts of masculinity, femininity, and queer behavior in many contexts, disciplines, communities, and societies. These include health sciences, religion, philosophy, cultural studies, history, sociology, and education, among others. The term "gender" refers to the observable physical characteristics of the human body, particularly male, female, or intersex. On the other hand, the term "gender" also refers to the societal expectations regarding the behaviors, roles, and identities associated with men and women in their families and communities [30].

Studies have, however, shown that there continues to be a lack of female representation in the positions of CEOs and board members. A recent study has indicated that women in positions as corporate executives or CEOs may face limitations due to their solitary or token status within the business when it comes to leading companies with their own vision [31]. The position of being a token may present challenges for female CEOs, as it restricts their access to crucial resources and assistance while also subjecting them to heightened scrutiny and unfavorable impressions [32]. By adhering to these recommendations, we can infer that woman have the capacity to exhibit distinct leadership styles that differ from those of men due to their unique personalities. However, it is important to acknowledge that women's potential to lead the organization in a distinct manner may be constrained by their marginalized status as a minority compared to men within the organizational structure.

3. Research Method

3.1. Sample Selection

This study selected all major energy businesses registered on the stock exchange in four countries in Southeast Asia as its population. The publicly listed companies are sourced from the official websites of Bursa Efek Indonesia for Indonesia, the Thailand Stock Exchange for Thailand, the Philippines Stock Exchange for the Philippines, and Bursa Malaysia for Malaysia. This study utilizes a population of ASEAN energy companies from 2017 to 2019. The samples chosen must align with the predetermined parameters of this study, a method often known as purposive sampling.

Of the 75 companies available, 9 have to be excluded because the signature is not available, they have not published the annual report in the selected year, or there is information that they have changed the position of CEO or president more than once between the selected years, so only 66 companies can be included in this study. This study uses a 3-year period as the basis for data collection, resulting in 198 data points during this period.

3.2. Research Instrument and Data Collection

This study uses content analysis to achieve its objectives. The annual reports and the sustainability reports of each company covered a period of 3 years, resulting in a total of 198 data points. More specifically, this study used the documentation approach, i.e., the data collected was obtained from the institution in question or from third parties. It is a cross-sectional analysis using secondary data obtained from the observation of multiple events or objects over the same time period or interval. While there is no universally accepted metric for assessing the quality of a company's sustainability report, other studies have used a similar approach by utilising the GRI index as a means of assessing the level of compliance with sustainability reporting standards.

Ehnert, et al. [33] for example, determine the level of corporate compliance with GRI reporting requirements using an index table as a method of measuring compliance. In another study by Al-Shaer and Zaman [34] the GRI index was used as a tool to assess sustainability reporting. The lack of a universally standardised technique for measuring sustainability reports at an international level is due to the fact that each company designs its own report according to its own needs and priorities and selectively discloses and highlights certain sections. Furthermore, the GRI does not prescribe an audit of the reports; instead, it is often seen as a means of verification for external bodies. Therefore, the GRI index was used in this study, regardless of whether it was disclosed in the sustainability reporting or not, and compared to the entirety of the necessary requirements, as follows:

$$SRdis = \frac{x}{21} \times 100\%$$

Where x equal to number of topics disclosed, and the higher y is, that means the related company disclose more of the GRI requirements.

3.3. Variable Measurements

Independent variables are factors that can be intentionally modified or altered based on the specific objectives of a study. Independent variables are the factors that have an influence on dependent variables, such as corporate sustainability reporting. Other variables do not have the potential to change the independent variables. In this study, two independent variables are analyzed: The CEO's signature is determined by creating a rectangular shape around the outer edge of the signature, with each side of the rectangle having the same length as the outermost point of the signature. This study determines the area the signature fills by multiplying the length and breadth of the rectangular region in centimeters. Subsequently, this study reduces the square area of the result by the number of letters in the CEO's name to minimize duplication due to the length of the CEO's name.

$$CEO_{NAR} = length \ \times wide$$

The two primary benchmarks for assessing the level of gender diversity on supervisory boards are the presence of women on both supervisory boards and management boards. Subsequently, this study calculated the mean of these two indices.

$$GEN_{Board} = \frac{GEN_{BoD} + GEN_{BoC}}{2}$$

The following formula is included in the regression, which consists of two variables: firm size ($LnTA$) and profitability ($PROFIT$). Therefore, this study can conclude the formula as follows:

$$CSR_{Dis} = \alpha + \ \beta_1 CEO_{Nar} + \beta_2 GEN_{Board} + \beta_3 LnTA + \beta_4 PROFIT + \varepsilon$$

4. Results

4.1. Descriptive Statistics

This study analyzes the impact of CEO narcissism and board gender diversity on corporate sustainability reporting. It was conducted in Southeast Asia and focuses on four selected countries: Indonesia, Malaysia, the Philippines, and Thailand. The focus is on energy companies from the Southeast Asia region from 2017 to 2019. A descriptive statistical analysis was performed based on the measures employed to explain the study results. The descriptive statistics analysis included measuring the minimum, maximum, mean, and standard deviation of CEO narcissism, board gender diversity, profitability, and firm performance. The result is provided in Table 1.

Table 1.
Descriptive statistics.

Variables	Minimum	Maximum	Mean	Std. deviation
CEO Narcissism	0.04	1.36	0.391	0.269
Board Gender Diversity	0.00	75.00	11.843	13.167
Profitability	1.00	8122.00	1313.2525	1718.91
Firm size	12.00	126765.00	23825.227	30498.63
Sustainability Reporting	10.00	67.00	45.010	11.007

CEO narcissism was measured using the square centimeter area of the signature of the related CEO, which is calculated by dividing the total area of the signature by the number of letters in the CEO's name. The minimum value of the signature is 0.04 cm^2, which belongs to Enrique M. Aboitiz (CEO of Aboitiz Power in the Philippines) in 2017, and the maximum value of the signature is 1.36 cm^2, created by Hilmi Panogoro (CEO of Medco Energi International) in 2018. CEO narcissism in this study has an average signature of 0.391 cm^2 and a standard deviation of 0.269 cm^2.

Board gender diversity describes the composition of women on the board of directors of the related company. The minimum value of gender diversity on the board in this study was 0.0, which belongs to 55 data points across the sections, averaging around 28% of the total data. This indicates that there is significantly more diversity between male and female genders in the energy companies in Southeast Asia compared to male members only. The maximum value of board gender diversity is 75.00, which belongs to Malaysia Airport and Fuel Berhad. They have relatively more female members as commissioners and directors compared to others, ranging from 100% to 50%, respectively, which means males consist of no more than half of the board directors. This variable has an average of 11.83, indicating that there are at least almost 12%

of female members across the boards of commissioners and directors in the energy company, and board gender diversity has a standard deviation of 13.167.

In this study, profitability can be seen in each company's annual report in the financial information section and is hence considered a control variable. In general, profitability can be calculated by dividing revenues by expenses plus tax and interest. The minimum value for this variable in this study is 1 million, which is the profit of PT Indo Straits in 2018. This study assumes this profit is very low because there was a significant increase in expenses for the company during the period. Bayan Resource from Indonesia generated the highest profit within a three-year period, which is 8,122 million, according to the data. This variable has a mean of 1,313.253 million and a standard deviation of 1,718.909 million.

The second control variable used in this study is firm size, and the author uses the Log Natural Total Asset to calculate and compare the sample size. The data itself can be gathered from the statement of financial position for each related year. The minimum value of total assets owned by Dana Brata Luhur is 12 million. The maximum value of total assets is 126,795 million, which is Perusahaan Gas Negara from Indonesia. The mean of this data set is 23,825.2273 million, with a standard deviation of 30,498.631 million.

Sustainability reporting is the dependent variable of this research. Sustainability reporting can be calculated by comparing the amount of sustainability disclosure provided by the company in their annual report or separate sustainability report with the total amount of disclosure framework released by GRI 305. In 2017, Aboitiz Power from the Philippines owned the minimum amount to disclose, which was 10%. Companies from Soechi Lines and Indika Energi both produced the maximum value in 2019 at 67 percent. The average of the sustainability reporting from 198 data points is 45%. Since this number is increasing each year and more companies in Southeast Asia are releasing sustainability reports at the Stock Exchange, this study can see the motivation from companies to disclose their sustainability policies according to GRI. Finally, the standard deviation from this variable is 11.067%.

4.2. Preliminary Analyses

The normality test is often used to determine if the data has been distributed normally. This study chose the Kolmogorov-Smirnov method due to the fact that more than 30 samples and 100 data points were collected. The test choice is made by examining the asymptotic sigma value (2-tailed) of the one-sample Kolmogorov-Smirnov test. If the asymptotic sigma (2-tailed) value exceeds 0.05, then the data is regularly distributed. However, if the significance value is less than 0.05, the data is not normally distributed. Table 2 shows the findings.

Table 2 displays the results of the asymptotic (2-tailed) Kolmogorov-Smirnov one-sample test. This study finds that the significance level is 0.200, which exceeds 0.05. Based on this, this study concludes that the data already follows a normal distribution.

Table 2.
One-Sample Kolmogorov-Smirnov test.

		Unstandardised residual
N		198
Normal parameters [a,b]	Mean	0.000
	Std. deviation	8.118
Most extreme differences	Absolute	0.029
	Positive	0.029
	Negative	-0.027
Test statistics		0.029
Asymp. sig. (2-tailed)		0.200 [c,d]

Note: a. Test distribution is normal.
b. Calculated from data.
c. Lilliefors significance correction.
d. This is a lower bound of the true significance.

This study also used the multi-collinearity test to check if there was any multi-collinearity between independent variables, which is not expected in a decent regression model. Tolerance levels and the variance inflation factor (VIF) may both indicate multicollinearity. If the VIF is less than 10.00 and the tolerance value is more than 0.10, the study's data does not exhibit multicollinearity. If the VIF is more than 10.00 and the tolerance value is less than 0.10, the data utilised in this research may have multicollinearity issues. Table 3 displays all independent variable data with a tolerance value more than 0.10 and a VIF value less than 10.00. This analysis shows that the data does not exhibit multicollinearity.

Table 3.
Multi-collinearity test.

	Collinearity statistics	
Model	**Tolerance**	**VIF**
CEO narcissism	0.960	1.042
Board gender diversity	0.942	1.062
Profitability	0.569	1.757
Firm size	0.564	1.772

The heteroscedasticity test was then carried out in this study. This test is intended to check whether there are differences in the residual deviations between the individual observations of the regression model. A good data basis can be data that does not exhibit any heteroscedasticity symptoms. To detect heteroscedasticity in this test, this study compares the result of the significance value with a fixed probability of 5% or 0.05. If the significance value is greater than 0.05, there is no heteroscedasticity symptom in the data, and the opposite is true if the value is less than 0.05. As shown in Table 4, all independent and control variables have a significance value of more than 0.05, which means that there is no heteroscedasticity in the data analysis.

Table 4.
Result of Park test SPSS 2.5.

Model	Standardised coefficients	t	Sig.
	Beta		
Constant		7.555	0.000
CEO narcissism	-0.090	-1.247	0.214
Board gender diversity	-0.025	-0.388	0.736
Profitability	0.127	1.345	0.180
Firm size	0.017	0.176	0.860

4.3. Multiple Regression Analysis

A multiple regression test was used as a partial hypothesis test to establish the importance of each independent variable for the dependent variable. The regression model is used to describe the interactions between variables by adjusting to the observed data. The regression model in this research takes the form of multiple linear regression, which can explain the relationship between two or more independent variables and one dependent variable. The effects of CEO narcissism and board gender diversity are to be tested with profitability and firm size as the control variables. The results are shown in Table 5. Regarding the first criterion of the relationship between CEO narcissism and sustainability reporting, this study concludes that the t-value for CEO narcissism is 11.567, with a significant value of 0.00. This study compares the result, noting that the t-value for CEO narcissism, which is 11.567, is above the critical value of the t-table, which is 1.65. This indicates that CEO narcissism has a positive influence on sustainability reporting disclosure. The study found a positive correlation and significant influence of CEO narcissism, which is consistent with previous research on the impact of CEO narcissism on critical financial and corporate disclosures. Such findings are similar to those suggested by Kontesa, et al. [35] indicating that there is a significant and favorable correlation between CEO narcissism and earnings management. This is consistent with the findings of this study, which found that narcissistic CEOs tend to communicate excessively and have a desire to cultivate a more impressive image with stakeholders. As a result, they engage in data manipulation and generate a greater amount of information for the public.

Table 5.
Multiple regression.

Model	Unstandardised coefficients		Standardised coefficients	t	Sig.
	β	Std error	Beta		
Constant	32.055	1.352		23.717	0.000
CEO narcissism	25.683	2.220	0.627	11.567	0.000*
Board gender	0.299	0.046	0.358	6.546	0.000*
Profitability	0.000	0.000	-0.074	-1.050	0.295
Firm size	0.000	0.000	0.000	-0.006	0.995

Note: *Significant at α =5%.

The second criterion relates to the correlation between gender diversity on boards of directors and the disclosure of sustainability reports. Gender diversity on boards is a particularly interesting aspect, especially in Southeast Asia, where there has been a lack of women in high-level positions in corporate hierarchies in recent years. However, in a limited number of countries, such as Indonesia and Thailand, there has been a steady increase in the representation of women on boards and in leadership positions, as this study shows. Table 5 shows a t-value of 6.546 for board gender diversity, with a significance value of 0.00. The t-value for board gender diversity is 6.546, which is above the critical value of 1.65 from the t-table. In addition, the significance value for board gender diversity is less than 0.05. This study shows a favorable correlation between board gender diversity and the extent of sustainability report disclosure. This result is not unexpected considering that women want more; women often improve their image and achieve a higher social status both within their organization and in society at large [12]. Female directors often contribute to the growth of social initiatives and attract more donations or funds to improve the organization's reputation with external stakeholders [27]. In contrast to men, who tend to prioritize economic considerations, women have a greater sense of duty and empathy when it comes to contributing to CSR. They possess a strong ethical compass, are excellent communicators, and are more committed to social causes [26].

Table 6 displays the results of the F-test, also known as the simultaneous hypothesis test, which was used to evaluate the significance of all independent variables with a simultaneous influence on the dependent variable. This study shows that

CEO narcissism and board gender diversity both have an effect on sustainability disclosure. This is because the F-value of these two factors is 40.46, indicating that both factors have a significance level of less than 0.05.

Table 6.
ANOVA.

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	10886.021	4	2721.505	40.466	0.000*
	Residual	12979.959	193	67.254		
	Total	23865.980	197			

Note: *Significant at α =5%.

The presence of a narcissistic CEO and a gender-diverse board has a positive impact on the extent to which a company discloses its sustainability reporting, as both factors contribute to an increase in the number of disclosures. According to the statistical data, disclosure is more strongly influenced by the narcissistic CEO than by gender diversity on the board. However, it should be noted that the number of women on boards is very low compared to men, especially in Malaysia and the Philippines. The data also suggest that the number of female commissioners and directors is steadily increasing in each country, which correlates with an increase in sustainability reporting. This correlation suggests that the growing number of women in leadership positions and the emphasis on sustainability may have an impact on corporate sustainability reporting in Southeast Asia. CEO narcissism may increase the likelihood of disclosing additional corporate information, while female board members strive to improve transparency and accountability to society and the environment surrounding the company [29].

Moreover, both of our independent variables had an impact on the level of transparency in the sustainability report. Interestingly, there are instances when corporations in Southeast Asia are led by a female CEO. Typically, female CEOs tend to have larger signatures compared to their male counterparts, and they usually have a greater number of photographs in the annual report. The findings indicate that companies led by female CEOs and with a signature that is above average are more inclined to provide a greater level of transparency in their sustainability reporting in their annual reports.

Table 7 shows the summary of the model of this study by performing the coefficient test, or R^2. With this test, the R^2 test can determine the extent to which the independent variables (CEO narcissism and board gender diversity) are able to explain the dependent variable (sustainability reporting). The above value of R^2 is 0.456. This indicates that the variables we used—CEO narcissism, gender diversity on the board, profit, and firm size—can simultaneously describe the independent variable of sustainability reporting to 45.6%, with the remainder subject to influence from other variables outside of this study.

Table 7.
Coefficient test.

Model	R	Df	Mean square	Std. error of estimate
1	0.675	0.456	0.445	8.201

5. Conclusion

This study examines the potential impact of CEO narcissism and board gender diversity on the sustainability reporting of energy companies operating in the Southeast Asia region. The study shows that there is a significant influence of CEO narcissism and board gender diversity on sustainability reporting in the energy companies of the four Asian countries. This study also shows that CEO narcissism and board gender diversity have a significant and simultaneous impact on the sustainability reporting of energy companies.

This study is not without limitations. Firstly, this study uses gender as the main component to determine a person's characteristics, which may not be accurate. Therefore, other factors such as education, family background, work experience, and age need to be considered in future studies. The second limitation is that this study uses an indirect measurement method for CEO narcissism. Although this method has been used many times and accepted by other journals and studies, other trait and psychological measures can predict narcissistic traits more accurately, but the data collection and administration are more time-consuming and expensive. The third limitation is that the data are processed in a single compilation, which reduces the accuracy and quality of the information for each country.

In summary, the findings of this study may be useful and valuable for investors and stakeholders to be more proactive in supporting the fulfillment of sustainability reports from their ownership firm. Another crucial institution is the government, which can rely on the findings of this study as a consideration for applying sustainability policy in Southeast Asia.

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