

Do Effectiveness Board Affect Sustainability Performance? Evidence from Indonesia

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Received : 01 June - 2025

Accepted : 25 June - 2025

Published online : 01 July - 2025

Abstract

Many Indonesian companies struggle with limited board effectiveness and inadequate corporate governance structures, which in turn impede their sustainability performance. Instead of prioritizing sustainability as a strategic goal, most firms in Indonesia view it as just a compliance obligation. The main objective of this study is to analyze the influence of board size, board independence, meeting frequency, and meeting attendance rate on sustainability performance. Information for this research was gathered from the yearly and sustainability reports of firms listed on the Indonesia Stock Exchange between the years 2018 and 2022. Companies that released sustainability reports during this time frame were chosen for the sample using purposive sampling method. The analysis of data utilized the panel regression technique in conjunction with the Eviews tool for analysis. The results from the regression analysis indicate a clear and positive impact of board independence and attendance rate at meetings on sustainability performance. On the other hand, the size of the board and the frequency of meetings do not seem to have a significant impact on sustainability performance. This research can be a reference for future researchers and for companies to evaluate and optimize corporate governance so as to increase transparency and support the achievement of sustainability performance. The novelty of this article lies in the research focus on companies that publish sustainability reports in developing countries, namely Indonesia as a form of transparency of sustainability performance.

Keywords: Board Effectiveness, Corporate Governance, Sustainability Performance.

1. Introduction

In recent years, the growing importance of sustainability in the corporate operating landscape has become a major concern, especially as companies manage economic, social and environmental demands (Kalash, 2023). Sustainability performance is an embedded system that manages key economic, social, and environmental aspects to achieve excellence (A. A. Zaid et al., 2020). Sustainability performance method of assessment is done through a process by corporate boards sustainability reporting. This report summarizes a company's efforts to achieve energy efficiency, manage waste, empower local communities and create sustainable economic value (Fairus & Murwaningsari, 2023).

Although various studies on board effectiveness on sustainability performance has been done, studies show mixed results. García Martín & Herrero (2020) found that a diverse board with relevant expertise contributes positively to corporate sustainability performance. Other research, such as that conducted by Ellba et al. (2022) highlighted that boards that are active in oversight and strategic decision-making can enhance sustainability initiatives. Boards that have a good understanding of environmental and social issues tend to be more successful in integrating sustainability practices into corporate strategy (Jan et al., 2021).



On the other hand, research by Rehman et al. (2020) shows that board effectiveness is not always positively related to sustainability performance, but rather depends on the industry context and applicable regulations. These findings suggest that board effectiveness is multidimensional and context-dependent, highlighting the need to identify which board mechanisms most influence sustainability outcomes. The Sustainable Development Goals (SDGs) are establishing fresh worldwide standards for sustainability, with the potential for businesses to have a significant impact by implementing sustainable measures (Naciti, 2019).

In recent times, there has been a noticeable rise in worries regarding the environmental and social consequences of the energy industry (Shahbaz et al., 2020). With the rise in global energy consumption, the negative effects of the energy industry will escalate and become a major concern in the future (Nguyen et al., 2020). The development and utilization of renewable energy in Indonesia is still low, even since 2018 no renewable energy mix target has been achieved (Pristiandaru, 2023). In order to promote the adoption of the SDGs along with sustainability practices, García Martín & Herrero (2020) and Nguyen et al. (2020) suggest that businesses must enhance the internal board mechanisms and structures they have in place. The reason for this is that the effectiveness of corporate sustainability efforts is greatly impacted by the governance systems, structures, and processes within the organization (Hussain et al., 2018; Naciti, 2019). In this regard, corporate boards have a significant impact on advancing sustainable development in corporate organizations, especially considering the deficiencies in corporate governance structures in numerous developing countries (Wachira et al., 2019).

Existing studies provide insights into how board management affects sustainability. For example, research by Purbandari & Suryani (2021) shows that companies with diverse boards are better able to adapt to sustainability regulations. In addition, Rahmawati & Putri (2020) revealed that boards with members who have environmental backgrounds show better sustainability performance. Thus, sustainability in Indonesia, which includes complex challenges such as pollution and social inequality, requires greater scrutiny and a strategic role from corporate boards (Alshirah et al., 2023).

It is believed that the dynamics of developing countries, including their cultural, regulatory, governance, and institutional environment, will vary significantly from those seen in more advanced nations (Jannah et al., 2023). Sustainability problems, like those related to the environment, corporate social responsibility, and governance, are influenced by a variety of factors, including legal, institutional, and social aspects that are influenced by the governance structures in each country (Matuszak et al., 2019). As a developing country, Indonesia faces unique challenges that set it apart from other countries. Many companies still struggle to understand the importance of sustainability as part of their business strategy (Purbandari & Suryani, 2021). Given these obstacles such as widespread deforestation and ineffective environmental policies, corporate boards have a responsibility to uphold adherence to environmental regulations (Salim, 2023), transparency of reporting and implementation of more sustainable practices (Raichandani, 2022).

There are many factors that can lead companies to make sustainability a top priority and share details about their sustainability initiatives (Rosati & Faria, 2019). Naturally, companies that excel in corporate governance are anticipated to successfully tackle sustainability challenges (Jan et al., 2021). In particular, the primary decision-making entity within the company is the board of directors, which holds a crucial role in addressing sustainability issues (Disli et al., 2022). Corporate boards play an important role in driving sustainability strategies through effective oversight and policies (Purbandari & Suryani, 2021). Board effectiveness can be defined as their ability to integrate member diversity, specialized expertise, active

participation, and strategic decision-making capabilities (Alshirah et al., 2023). Yet, board effectiveness is often questioned given the challenges that arise, such as conflicts of interest, lack of knowledge about sustainability, and stakeholder pressure (Raichandani, 2022).

The research on corporate sustainability performance has predominantly concentrated on developed countries because the topic is relatively new and intriguing (Disli et al., 2022). However, with the increasing interconnectedness of the global economy, emerging markets are starting to attract more interest (Muttakin et al., 2018). The growing recognition of sustainability is not just because of outside influences, but also because of a shift in mindset regarding meeting standards of corporate governance. In this structure, the board serves as the primary entity responsible for making decisions in a company and holds a vital role in sustainability issues. Although the societal environment varies in developing nations, globalization has compelled companies in these regions to implement modern corporate governance practices in order to appeal to international investors. Aid organizations and global standards organizations have influenced developing nations to implement regulations in order to comply with corporate governance requirements.

While many acknowledge the significance of corporate sustainability performance, there is limited research on the specific factors influencing sustainability performance in developing economies. The majority of existing literature has centered around the question of whether adopting sustainable practices leads to an increase in a company's value or profitability (Puspita & Jasman, 2022; Shofiyah, 2021; Yasin et al., 2023). Determining whether the knowledge gained from developed countries can be utilized in less developed nations is essential, taking into consideration their unique economic, cultural, legal, and institutional contexts (Radhakrishnan et al., 2018).

While many acknowledge the significance of corporate sustainability, there is limited research on the factors affecting sustainability performance in emerging economies. Most studies focus on the firm value of sustainable practices in a developed market. This market condition is not applicable in emerging markets like Indonesia due to economic development, legal environments and institutional structures. The importance of the board of directors in overcoming these obstacles cannot be overstated, however, there is a lack of concrete data available. This study aims to fill the gap in understanding by presenting real-world insights into how boards can be more effective (comprising board size, board independence, board meetings, and board meeting attendance) influences the sustainability performance of corporations in Indonesia. To accomplish this objective, the study focuses on Indonesian companies that are publicly listed on the IDX (Indonesia Stock Exchange) and release sustainability reports. Due to the increasing demand for better sustainability practices, strong internal governance is expected to influence corporate strategies and operations relating to environmental sustainability.

2. Methods

2.1. Research Data

This study combines quantitative methods with explanatory research to explore the link between board effectiveness and sustainability performance. The quantitative approach involves gathering and analyzing numerical data to test theories and shed light on the subject being studied (Creswell & Creswell, 2017). The companies included in this research are those that are publicly listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. The researchers used a method known as purposive sampling to carefully select the participants based on specific criteria that are relevant to the research goals (Nuralim et al., 2024), with

the criteria that companies publish sustainability reports between the periods 2018 to 2022. This sampling process excludes company data that does not meet the criteria, namely companies that do not publish sustainability reports in that year period. Thus, the final sample amounted to 270 data from a total of 54 companies listed on the IDX.

The information utilized was sourced from annual reports and corporate sustainability reports as secondary data. According to Sugiyono (2019), secondary data refers to information acquired from pre-existing sources, this data is often used to support analysis and provide additional context in research. The instrument in the study is an analytical framework that includes independent variables such as board size, board independence, frequency of board meetings, and level of board meeting attendance, with sustainability performance as the dependent variable.

The data analysis technique used is panel data regression analysis, which is a comprehensive approach that involves examining data across multiple cross-sectional units observed over a long period of time (Bertiani et al., 2024). This research employs Eviews statistical software to examine how independent variables influence the dependent variable through data analysis. The study applies a Fixed Effect Model (FEM) for regression analysis, chosen after conducting Chow and Hausman tests to identify the most appropriate model for the dataset characteristics. The purpose of this analysis is to generate empirical findings on how board effectiveness as an independent variable impacts corporate sustainability performance as the dependent variable within the Indonesian context.

2.2. Dependent Variable

The assessment of the company's sustainability performance is determined by the information reported by the company in comparison to the full range of items required by the Global Reporting Initiative (GRI) guidelines. In this measurement methodology, each reported item is given a score of 1, while unreported items are given a score of 0 (Zahid et al., 2020). This method enables a thorough evaluation of how well the company is meeting the sustainability reporting requirements established by the GRI.

2.3. Independent Variable

Board Size is determined by the combined count of directors and commissioners in a company, measuring the overall number of these individuals within the organizational framework (Tulung & Ramdani, 2018). Determining the size of the board is important because it can affect decision making, corporate governance, and overall company performance. Thus, analyzing board size is a crucial aspect in understanding the dynamics and effectiveness of company management.

Board independence is assessed by measuring the proportion of independent directors compared to the overall number of directors on the board of a company (Tulung & Ramdani, 2018). In order to determine the board of commissioners' ability to operate impartially and independently from managerial control, to enhance supervision quality and corporate governance. Thus, examining the independence of the board is crucial in assessing how well corporate governance systems are functioning.

The frequency of board meetings is determined by tallying up all the meetings conducted by the board of directors and commissioners throughout the year, encompassing both regularly scheduled and ad-hoc meetings (Sethi et al., 2023). Assessing the board's commitment and involvement in crucial decision-making and oversight of company operations can be determined by the frequency of board meetings conducted. Examining the frequency of these meetings can offer valuable information on how well corporate governance is functioning and how closely the company is being monitored.

Board meeting attendance is measured by calculating the percentage of board members' attendance at all official meetings scheduled during a certain period (Almaqtari et al., 2023). This attendance rate is an important indicator that reflects the commitment and active participation of board members in the decision-making process and company supervision. Thus, an analysis of the frequency of board meeting attendance can provide significant insight into the effectiveness of corporate governance and board involvement in carrying out its responsibilities.

2.4. Control Variable

The size of a company is indicative of its scope and capability, determined by the total amount of assets it holds and calculated using the natural logarithm of total assets (Hamed & Tsoho, 2020). Age of the firm reflects the Company's credibility and capacity to accumulate expertise, determined by how long it has been in operation (Leyva-de la Hiz & Bolívar-Ramos, 2022).

Table 1. Measurement of Variables

Type of Variables	Measurement
Dependent Variable	
Sustainability Performance	Measurements were conducted by assigning a value of 1 to items that were revealed and a value of 0 to items that were kept hidden (Zahid et al., 2020).
Independent Variables	
Board Size	Number of directors + commissioners (Tulung & Ramdani, 2018)
Board Independence	Independent commissioners / total commissioners (Tulung & Ramdani, 2018)
Board Meeting Attendance	Number of board meetings per year (Sethi et al., 2023) The company's overall attendance rate at board meetings (Almaqtari et al., 2023)
Control Variables	
Firm Size	Ln of the company's total assets (Hamed & Tsoho, 2020)
Firm Age	Financial report year - year of establishment of the company (Leyva-de la Hiz & Bolívar-Ramos, 2022)

3. Results and Discussion

Descriptive statistics is a useful tool for analyzing and summarizing data in research. It calculates measures like the mean, maximum, minimum, and standard deviation to show how data is spread out and how much it varies.

Table 2. Descriptive Statistical Test Results

	Mean	Maximum	Minimum	Std. Dev.
Sustainability Performance (SP)	0.649123	0.968254	0.230159	0.166372
Board Size (BS)	10.94737	20	4	3.215096
Board Independence (BI)	0.403603	0.75	0	0.123252
Board Meeting (BM)	7.342105	20	1	4.278012
Board Meeting Attendance (BMA)	0.947455	1	0.5	0.085183
Firm Size	30.61324	34.34542	27.25471	1.311555
Firm Age	37.77444	72	6	15.96275

Source: Eviews (2025)

According to Table 2, the descriptive analysis reveals that Indonesian companies have an average Sustainability Performance (SP) of 0.649123, indicating a moderate sustainability level. This value suggests that while Indonesian firms have begun implementing sustainability practices, there remains significant potential for enhancement in their sustainability efforts.

The minimum value of board size is 4 members. This shows that businesses in Indonesia have adhered to the requirements set forth by Law No. 40/2007 on Limited Liability Companies (UU PT) for Limited Liability Companies (PT), a minimum of 1 director and 1 commissioner is required, while for Public Companies (Tbk), a minimum of 2 board members (President Director and other Directors) and 2 commissioners, including an Independent Commissioner. These provisions ensure effective corporate governance, with a structure that is flexible for small companies and adequate for large companies.

The BI variable at 75% shows board members in many companies are independent. This indicates commitment to strong corporate governance practices. Board meetings occur 7 times a year on average, showing active oversight in decision-making. Active board involvement in meetings can enhance supervision and decision-making (Matuszak et al., 2019). The board meeting attendance rate reached an average of 94%, indicating that the majority of the board is committed and engaged in annual meeting activities. This reflects a high dedication to collaboration and communication within the organization, and shows that the meetings are considered important.

Table 3. Regression Model Selection Results

Model Selection Test		
	Chow Test	Hausman Test
Prob.	0.0000	0.0011
Chosen Model	FEM	FEM
Conclusion	Fixed Effect Model (FEM)	

Source: Eviews (2025)

Based on Table 3, the best model chosen is the Fixed Effect Model (FEM). Moreover, the outcomes of the hypothesis examination, which involve the F-test as well as the t-test, are demonstrated in the following table.

Table 4. F Test Result

Dependent Variable	F Test	Sig.
Sustainability Performance (SP)	Prob (F-statistic)	0.0000

Source: Eviews (2025)

The regression test results show that the probability is significant at 0.0000 which is below 0.05. This indicates that independent variables such as board size, board independence, board meetings, and board meeting attendance have a significant effect simultaneously on sustainability performance.

Table 5. t Test Result

	Coefficient	Prob.	Conclusion
Constant	-1.308935	0.0479	
Board Size (BS)	-0.000987	0.8380	Not significant
Board Independence (BI)	0.188590	0.0457	Positively significant
Board Meeting (BM)	-0.001654	0.6223	Not significant
Board Meeting Attendance (BMA)	0.211142	0.0140	Positively significant
Firm Size	0.044819	0.0434	-

Firm Age	0.008810	0.0043	-
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Source: Eviews (2025)

According to the data in Table 5, the study results show that board size does not significantly affect sustainability performance. This is supported by a coefficient of -0.0009 and a probability value of 0.8380. As a result, the initial hypothesis (H1) is not supported. These results complement studies by Yudhanti & Listianto (2022), Afifah & Immanuela (2021), and Sugeng (2020) who verified that board size has no significant effect on sustainability. A large board size may not be effective without good decision-making. For example, board members may be less involved in strategic issues related to sustainability, so their presence does not directly affect the company's sustainability performance.

In the Indonesian context, where organizational hierarchies tend to be rigid and decisions are often centralized, increasing board size may contribute to coordination problems, diluted responsibility, or passive participation. Board members might be appointed based on symbolic or political reasons rather than their active contribution to sustainability oversight. Consequently, unless supported by a strong leadership structure and clear sustainability agenda, board expansion may not significantly enhance a firm's sustainability outcomes.

The data in Table 5 indicates that having a board with greater independence positively impacts sustainability performance, as shown by the coefficient of 0.1885 and a probability value of 0.0457. Consequently, the second hypothesis (H2) can be confirmed. The findings align with Al Amosh & Khatib (2022), Alipour et al. (2019), Husted & Sousa-Filho (2019), and Garas & ElMassah (2018), which verified that board independence has a significant positive effect on sustainability. This is because independent boards have the ability to minimize conflicts of interest and ensure transparency in strategic decision making, including decisions related to sustainability. Independent boards tend to be more objective in overseeing company policies, as they are not directly involved in the day-to-day operations of the company.

Based on the results in Table 5, it is clear that board meetings do not affect sustainability performance. This is supported by a coefficient value of -0.0016 and a probability value of 0.6223. Consequently, the third hypothesis (H3) is invalidated. These findings are comparable with Khansa & Syafruddin (2023) who verified that board meetings have no significant positive effect on sustainability. This is because board meetings do not always reflect the effectiveness of supervision, especially if the information discussed in the meeting is controlled by the managing director, limiting other board members from optimally addressing sustainability issues. In the Indonesian corporate environment, where hierarchical leadership structures often concentrate authority in the hands of the managing director, board discussions may be procedural or dominated by routine compliance matters. As a result, even frequent meetings may lack substantive engagement with sustainability issues, especially when agenda-setting is tightly controlled. Without genuine deliberation or proactive input from board members, meetings risk becoming formalities rather than strategic forums for addressing environmental and social performance.

Looking the data in Table 5, it is evident from the test outcomes that attending board meetings has a notable impact on sustainability performance, as indicated by a coefficient value of 0.2111 and a probability value of 0.0140. Hence, hypothesis four (H4) can be confirmed, the study outcomes reinforce with Indah & Cahyonowati (2023), Kumar et al. (2023) which show that board meeting attendance has a significant positive effect on sustainability. Active attendance allows board members to provide constructive input regarding sustainability policies, thereby encouraging more effective implementation of sustainability programs. In the Indonesian context, where hierarchical leadership structures

and concentrated decision-making are common, consistent attendance may provide board members with more opportunities to assert influence and hold management accountable on sustainability matters. Their presence can improve the flow of critical information and foster more inclusive and transparent discussions, enabling stronger oversight and more effective implementation of sustainability initiatives.

Firm size and firm age used in this study show a significant influence on sustainability performance. Firm size with a probability of 0.0479 (<0.05) and a coefficient of 0.044819. Firm age shows a probability of 0.0043 (<0.05) and a coefficient of 0.008810.

Table 6. R² Test Result

Dependent Variable	Adjusted R-Squared
Sustainability Performance (SP)	0.728562

Source: Eviews (2025)

The R² analysis shows that 72% of sustainability performance variance is explained by independent variables like board independence, size, meetings, and attendance. The other 28% is due to factors like gender diversity (Fayaz et al., 2021; Naveed et al., 2021), audit committee (Ellba et al., 2022; Hendrati et al., 2023; Khoiriyah et al., 2022).

While this study gives a broad understanding of the connection between board effectiveness and sustainability performance, it does not consider differences across industries. In reality, sustainability priorities and the role of the board can differ substantially across sectors (for example: extractive vs. service industries). Without sectoral analysis, the interpretation of these findings should be approached with caution. Future research is encouraged to adopt a sector specific perspective, as aligning governance mechanisms with the particular sustainability challenges of each industry could offer more accurate and meaningful insights.

4. Conclusion

This research investigates how board effectiveness impacts corporate sustainability performance in Indonesia, examining board size, board independence, meeting frequency, and board meeting attendance as key variables. Through analysis of data from Indonesia Stock Exchange (IDX) listed companies between 2018-2022, the study demonstrates that board independence and board meeting attendance significantly and positively influence sustainability performance. However, board size and board meetings do not exhibit significant effects on sustainability outcomes.

This research confirms that board independence and attendance in meetings are important for improving the sustainability of businesses in Indonesia. Independent boards ensure transparent and strategic decision-making, while consistent attendance reflects a commitment to effective oversight. The results back the idea of enhancing corporate governance in emerging nations in order to advance the realization of sustainable development objectives (SDGs) via flexible and responsible sustainability tactics.

This research comes with a number of constraints. To begin with, the scope of this study is restricted to businesses in Indonesia that release sustainability reports, which means that the findings might not be applicable to different national settings. However, focusing on Indonesia gives valuable insights into sustainability challenges and opportunities in developing countries. Research in the future could study more locations and additional sustainability factors like organizational culture and stakeholder pressure. Secondly, the study

used quantitative methods and secondary data analysis, but may not capture all social and cultural factors that impact sustainability performance.

This study offers valuable insights both in terms of theory and practical application. Theoretically, it adds to existing research on how board governance impacts sustainability in the emerging markets of Indonesia, shedding light on the various factors that play a role in the effectiveness of boards in an Indonesian setting. Practically, the findings provide guidance for Indonesian companies to optimize board structure and activities to achieve better sustainability performance. The findings are also relevant for policymakers in Indonesia to design regulations that support responsible and sustainable corporate governance practices.

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