

The Influence of Environmental Performance and Board Size on Carbon Emission Disclosure: The Moderating Role of CEO Power in Indonesia's Transportation and Logistics Sector

Rita Agustin^{1*}, Ratlan Pardede²

Faculty of Social Sciences and Humanities, Universitas Bunda Mulia,
Indonesia^{1*2}

Email: Ritagstnn@gmail.com^{1*}, Ratlan39@gmail.com²

ABSTRACT

The pressing global issue of climate change has led to increased scrutiny over corporate environmental practices, particularly carbon emission disclosures. This research aims to examine the influence of environmental performance and corporate governance mechanisms on carbon emission disclosure within the transportation and logistics sector in Indonesia from 2018 to 2023, with a specific focus on the moderating role of CEO power. By using a quantitative research design and panel data regression analysis, the study explores how environmental performance and board size affect carbon emission disclosure and assesses the impact of CEO power in moderating these relationships. The findings reveal that environmental performance and board size do not significantly impact carbon emission disclosure. This study contributes to the literature by emphasizing the crucial role of CEO power in enhancing corporate transparency regarding environmental performance and highlights the need for robust governance to improve ecological accountability. The results offer valuable insights for policymakers and corporate managers in developing governance frameworks that promote transparency and sustainable practices.

Keywords: Environmental Performance, Corporate Governance, CEO Power, Carbon Emission Disclosure, Transportation & Logistics companies, Indonesia.

INTRODUCTION

The transportation and logistics sector is a major contributor to carbon emissions, accounting for approximately 27% of the country's total energy sector emissions (Yu et al., 2021). Rapid urbanization and increased reliance on private vehicles exacerbate emissions, prompting the government to revise its carbon reduction targets. The sector's operations, including transportation, warehousing, and distribution, are highly dependent on fossil fuels, leading to significant carbon emissions (Al Baroudi et al., 2021). The transportation and logistics sector's emissions primarily result from fossil fuel combustion, contributing substantially to Indonesia's overall GHG emissions. In 2018, emissions from the energy sector totaled 595,959 Gg CO₂e, with the transportation sub-sector responsible for 26,39% of these emissions (Data, 2019). This significant contribution underscores the need for targeted strategies to reduce emissions within this sector. Globally, environmental concerns have taken center stage, with climate change and its associated impacts becoming critical issues in international discourse. This has led to heightened scrutiny and calls for increased transparency and accountability regarding environmental practices. The transportation and logistics sector in Indonesia is at a critical juncture in its journey towards sustainability (Jansen et al., 2018).

The Indonesian government, through the Ministry of Energy and Mineral Resources (ESDM) has stated that in 2060, the level of transportation sector emissions should not exceed 52 million tons of CO₂ (2060 Energy Sector Net Zero Emission (NZE) Roadmap). Minister of Transport Decree No. KM 8/2023 regulate that the transportation sector should implement several action mitigation measures such as Utilization of New Renewable Energy (EBT) like the use of Solar Power Plants (PLTS) in Transportation Infrastructure. Addressing the environmental impact of the transportation and logistics sector requires a multifaceted approach involving regulatory measures, technology advancements, and corporate action. Investors, consumers, and other stakeholders increasingly demand comprehensive and accurate emissions data to make informed decisions and hold companies accountable for their environmental performance. Carbon Emission Disclosure (CED) has emerged as a crucial aspect of corporate environmental responsibility. CED involves reporting a company's greenhouse gas emissions and related environmental performance metrics (Chen et al., 2018). This process enables companies to communicate their environmental impact to stakeholders, identify areas for improvement, and demonstrate their commitment to sustainability.

Governments and regulatory bodies worldwide have implemented stringent regulations and policies aimed at reducing carbon emissions and promoting sustainable practices. In Indonesia, the government has introduced various regulations and policies to encourage companies to adopt sustainable practices. These include the National Action Plan for Greenhouse Gas Emission Reduction and the implementation of carbon trading schemes. Companies in the transportation and logistics sector are particularly affected by these regulations due to their significant contribution to national emissions (Xu & Xu, 2022).

As industries increasingly face pressure from stakeholders to mitigate their environmental impact, the role of corporate governance in facilitating transparent carbon emission disclosure has become more pronounced. Corporate governance plays a pivotal role in promoting transparency and accountability in CED. Effective governance mechanisms can drive companies to adopt sustainable practices and enhance their environmental performance, ultimately leading to reduced emissions. The concept of corporate governance encompasses a range of practices and policies that guide an organization's operations and decision-making processes (Bhatti et al., 2020).

In the context of CED, governance structures such as board size and managerial ownership can influence a company's transparency and commitment to sustainability (V Corporate governance in small and medium enterprises: a review et al., 2020). Previous studies have explored the impact of these governance elements on CED, yielding mixed results (Ben-Amar et al., 2017); (Herinda et al., 2021). While some research highlights the positive effects on board size on disclosure practices, other studies suggest that these factors may have limited influence. A critical yet underexplored aspect of this dynamic is the moderating role of CEO power. CEO power refers to the ability of the CEO to influence board decisions and organizational strategies. In the context of carbon emission disclosure, CEO power can shape the extent to which companies prioritize transparency and environmental responsibility. By leveraging their influence, CEOs can drive organizational change and align corporate practices with sustainability goals (Herinda et al., 2021).

This study seeks to bridge the gap in existing literature by examining the interplay between environmental performance, board size, and carbon emission disclosure in Indonesia's transportation and logistics sector. Specifically, it explores how CEO power

moderates the relationship between governance mechanisms and disclosure practices. Understanding these dynamics is crucial for policymakers, stakeholders, and corporate leaders seeking to enhance transparency and accountability in environmental reporting.

As Indonesia navigates the complexities of its energy transition, the role of corporate governance in shaping environmental disclosure becomes increasingly important. Companies in the transportation and logistics sector are under growing pressure to demonstrate their commitment to sustainability and contribute to national and global emission reduction targets. By examining the influence of governance mechanisms and CEO power on carbon emission disclosure, this study provides valuable insights into the drivers of transparency and accountability in corporate environmental practices.

The years 2018 to 2023 represent a significant phase in Indonesia's sustainability journey, following the 2017 enactment of the POJK on sustainability reporting. This period is characterized by the evolution of corporate governance practices aimed at increasing transparency in carbon emissions disclosure. Studying this time frame allows for an evaluation of the regulatory influence on corporate behavior, offering insights into the effectiveness of governance mechanisms and the moderating role of CEO power in fostering accountability within the transportation and logistics sectors.

In conclusion, With the sector's significant contribution to emissions, understanding the factors that influence carbon emission disclosure is vital for driving meaningful change. This study aims to shed light on the complex interactions between environmental performance, board size, and CEO power, offering guidance for enhancing transparency and promoting sustainable business practices in Indonesia's dynamic economic landscape.

Based on the outlines background of the study, the research problem can be formulated as follows:

1. Does Environmental Performance influence Carbon Emission Disclosure in transportation and logistics sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2018–2023?
2. Does Board Size affect Carbon Emission Disclosure in transportation and logistics sector companies listed on the IDX during the period 2018–2023?
3. Does CEO Power moderate the influence of Environmental Performance on Carbon Emission Disclosure in transportation and logistics sector companies listed on the IDX during the period 2018–2023?
4. Does CEO Power moderate the influence of Board Size on Carbon Emission Disclosure in transportation and logistics sector companies listed on the IDX during the period 2018–2023?

Legitimacy Theory

According to Downling and Pfeffer, as cited in Herinda (2021), legitimacy theory posits that an entity achieves legitimacy when its value system aligns with the broader value system of the society in which it operates. This alignment indicates that the organization's actions are perceived as appropriate and acceptable by its stakeholders, thereby granting it necessary social endorsement to function effectively within its social context. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity's legitimacy. Organizations continually strive to ensure that their operations align with societal values (H. Wang et al., 2016). According to Ghozali and Chariri (2017), companies and society are bound by a "social contract". Legitimacy

theory is often used to explain corporate behaviors, particularly in relation to environmental and social reporting. Companies use sustainability reports as tools to communicate their adherence to social norms and expectations, thereby managing legitimacy. By disclosing information about their environmental and social impacts, companies attempt to address societal concerns and demonstrate accountability and transparency (Michelon et al., 2015).

Stakeholder Theory

Stakeholder theory has emerged as a prominent framework in management literature, emphasizing the importance of considering the interest and impacts of various stakeholders, including shareholders, employees, customers, suppliers, and the broader community, in the decision-making processes of organizations (Bashir et al., 2022). Effective stakeholder management requires ongoing communication and engagement with stakeholders to build trust and foster collaboration. This involves both informing stakeholders about company activities and soliciting their input in decision-making processes. Within the framework of stakeholder theory, the relationship between management and the environment is regarded as a marketing strategy that can enhance economic efficiency, such as maximizing profits. This is due to the fact that consumers tend to be attracted to products perceived as environmentally friendly (Zahara, 2024); (Safutri et al., 2023).

Agency Theory

Agency theory is concerned with the problems that arise when one party (the agent) is expected to act in the interests of another party (the principal), but the agent's own interest may conflict with the principal's (K. T. Wang & Shailer, 2018). This information asymmetry, where the agent has more knowledge or information than the principal, can lead to agency costs, which are the costs borne by either the agent or the principal as a consequence of the agency problem. These agency problems can impact various corporate decisions, including the disclosure of environmentally relevant information such as carbon emissions. Numerous studies have examined the effect of environmental performance, characteristics of corporate governance and their connection to carbon emission disclosure. However, the results have been mixed or inconclusive. In particular, a study conducted by Sadira and Husnah (2023), shows that environmental performance has an influence on carbon emission disclosure. Meanwhile, a study by Sofiana (2022) stated that environmental performance does not have an effect on carbon emission disclosure.

Carbon Emission Disclosure

According to Velte et al., (2020), carbon performance is a managerial activity that pertains to carbon emission. It represents the quantitative emission of greenhouse gasses (GHG) that have the potential to alter the climate as well as the actions that organizations take to reduce their carbon emissions into the atmosphere. Companies that choose to disclose their carbon emissions must consider several factors. These include efforts to obtain stakeholder legitimacy and mitigate potential threats, particularly for those companies that emit greenhouse gasses. Potential threats encompass higher operational costs, reduced demand, reputation risks, legal challenges, and penalties (Prasetyo, 2018). In Irwhantoko (2016), identifies five primary categories concerning climate change and carbon emissions. These categories are risks and

opportunities associated with climate change (GHG/Greenhouse Gas), energy consumption (EC/Energy Consumption), reduction of greenhouse gasses and related costs (RC/Reduction and Cost), and the accountability of carbon emissions (AEC/Accountability of Emission Carbon). The following table outlines the key elements for carbon emission disclosure checklist by (Irwhantoko & Basuki, 2016).

Table 1: Carbon Emission Disclosure Checklist

Category	Item	Remarks
Climate Change: Risks and Opportunities	CC-1	Assessment/description of risks (regulations both specific and general) related to climate change and the actions taken to manage these risks
	CC-2	Current (and future) assessment/description of the finance, business and opportunity implications of climate change
GHG/Greenhouse Gas Emission	GHG-1	Description of the methodology used to calculate greenhouse gas emission (eg GHG protocol or ISO).
	GHG-2	Existence of external verification of GHG emission quantity calculation by whom and on what basis.
	GHG-3	Total greenhouse gas emission (metric tons of CO ₂ -e) produced.
	GHG-4	Disclosure of scope 1 and 2, or 3 of direct GHG emission
	GHG-5	Disclosure of GHG emission by origin or source (eg coal, electricity, etc.).
	GHG-6	GHG emission disclosure by facility or segment level.
	GHG-7	Comparisons of GHG emission with those of previous years.
EC/Energy Consumption	EC-1	The amount of energy consumed (eg tera-joules or Peta-joules).
	EC-2	Calculation of energy used from renewable resources.
	EC-3	Disclosure by type, facility or segment
RC/Reduction of Greenhouse Gas and Cost	RC-1	Details of the plan or strategy to reduce GHG emission.
	RC-2	Details of the current GHG emission reduction target level and emission reduction targets
	RC-3	The emission reductions and costs or savings achieved today as a result of the emission reduction plan.
	RC-4	Future emissions accounted for in capital expenditure planning.
AEC/Accountability of Carbon Emission	ACC-1	Indication that the committee board (or other executive body) has responsibility for actions related to climate change.
	ACC-2	Description of the mechanism by which the board (or other executive body) reviews the company

		developments related to climate change
--	--	--

Environmental Performance

In recent years, environmental performance has gained prominence as an essential component of corporate sustainability. As businesses face increasing pressure from stakeholders to reduce their environmental impact, measuring and improving environmental performance has become a strategic priority (Chen et al., 2018). To improve their environmental performance, organizations can use the ISO 14001 standard. The ISO 14001 standard is intended for organizations that want to systematically manage their environmental responsibilities (Ociepa-Kubicka et al., 2021).

Board Size

Corporate governance is a critical component in assessing a company's proactive approach to managing the climate crisis. The practices of corporate governance significantly influence how a company navigates its responsibilities and opportunities in sustainability (Oliveira et al., 2016). Effective corporate governance can steer a company toward achieving its business objectives while ensuring robust oversight and risk management. The structure of corporate governance is crucial, as it impacts the company's objectives, the strategies to achieve them, and the oversight mechanisms to optimize performance (Puni & Anlesinya, 2020). One of the essential mechanisms in corporate governance is the board size, which plays a pivotal role in determining the efficiency and effectiveness of board operations. A larger board may enhance the board's capacity for oversight due to increased diversity and expertise. However, it can also lead to challenges such as higher communication costs and the potential for poor decision-making due to complexity (Boivie et al., 2016). Therefore, finding an optimal board size is crucial to balance the benefits of diverse perspectives and the drawbacks of inefficiencies in communication and decision-making.

This study aims to investigate the impact of environmental performance and corporate governance mechanisms on carbon emission disclosure in Indonesia's transportation and logistics sector from 2018 to 2023, with a specific focus on the moderating role of CEO power. The research seeks to determine whether environmental performance and board size influence the extent of carbon emission disclosure and to explore how CEO power affects these relationships. By employing quantitative methods and panel data regression analysis, the study will provide insights into how governance structures and executive influence shape corporate transparency in environmental reporting. The findings are expected to contribute to a deeper understanding of the dynamics between governance practices and environmental disclosure, highlighting the critical role of CEO power in enhancing corporate accountability. This research will offer valuable guidance for policymakers, corporate managers, and stakeholders in developing effective governance frameworks and sustainability strategies, ultimately supporting efforts to improve environmental performance and achieve national emission reduction targets

RESEARCH METHOD

This study employs a quantitative research design to examine the relationship between environmental performance, board size, and carbon emission disclosure. By utilizing a data panel, the research aims to provide empirical evidence on how these factors interact and influence each other. The study period spans from 2018 - 2023, allowing for an in-depth analysis of trends and changes over time. Data collection is conducted through various online platforms. The primary data source is the Indonesia Stock Exchange website (www.idx.co.id), which provides comprehensive access to company listings, financial reports, and other relevant disclosures. In this study, a purposive sampling technique is employed to select companies for analysis. Certain criteria were applied to refine to ensure the reliability and relevance of the data: (1) companies must be part of the transportation and logistics sector and listed on the Indonesia Stock Exchange (IDX) during the 2018-2023 period; (2) companies must have issued annual reports and/or sustainability reports throughout the 2018-2023 period; (3) Companies must explicitly disclose their carbon emissions, which includes having at least one policy related to carbon emissions of greenhouse gasses or disclosing at least one item related to carbon emission information. Applying these criteria resulted in the selection of 8 companies from the original list of 29. These 8 companies met all the necessary conditions, making them suitable for the study's objectives. The research covers a six-year period, from 2018 to 2023, which allows for a longitudinal analysis of trends and changes in governance practices and environmental disclosures. Over this timeframe, the total number of data points available for analysis amounts to 46, providing a comprehensive dataset to support the study's hypotheses and research objectives.

This study uses multiple regression analysis to test the hypotheses and assess the relationships between the variables of interest. Multiple regression analysis is a statistical technique that measures the strength and direction of the relationship between one dependent variable and two or more independent variables. The research model used multiple regression analysis as follows:

$$CED = \alpha + \beta_1EP + \beta_2BS + \beta_3EP*CEOPWR + \beta_4BS*CEOPWR + e$$

The analysis was conducted using the statistical software STATA 17.

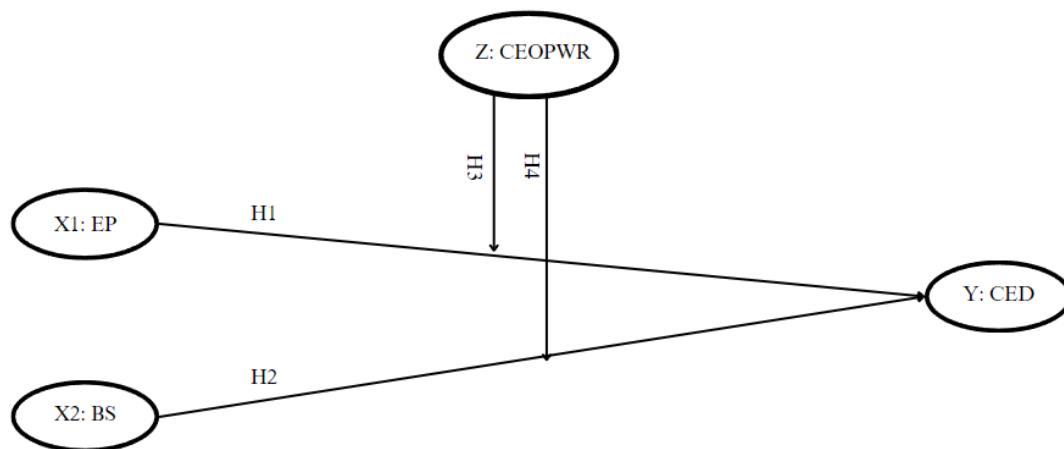


Figure 1: Conceptual Framework

RESULTS AND DISCUSSION

Table 1. Statistic Descriptive

	Minimum	Maximum	Average Value	Standard Deviation
CED	0	0.8164966	0.2901835	0.300208
BS	2	9	41.875	1.746.196
CEOPWR	17.321	162.173	7.791.735	4.179.148

The table shows the minimum, maximum, average, and standard deviation of all variables in the full sample of 48. Based on the results of descriptive statistical testing in the table above, it is known that the research sample (N) is as much as 48. The CED variable is measured using dummy variables where the minimum 0 means that the company did not disclose any of the items from the carbon emission disclosure checklist and a maximum value of 0,8164966 means that the company has at least one of the items from the CED checklist. This indicates that the extent of carbon emission information disclosed by the companies in this sample was relatively low. The Environmental Performance (EP) was measured using the dummy variabel (0 or 1), where the average of 0.3125 indicates a lower occurrence of high environmental performance across the sample. The Board Size (BS) ranges from 2 to 9 with an average size of 4.875. This indicates a moderate to large board size, which might influence governance practices and disclosure.

Table 2. Hypothesis testing results

Variabel	Regression Model		
	Fixed Effect Model		
	t	Probability	Results
EP	-1.65	0.910	H1 is not supported
BS	1.85	0.849	H2 is not supported
EP_CEOPWR	2.18	0.037	H3 is supported
BS_CEOPWR	-2.57	0.015	H3 is supported
Cons	2.10	0.043	

Source: Output STATA 17

According to the regression results analyzed from table above, the result shows that the effect of environmental performance on carbon emission disclosure is not significant, with a p-value of 0.910, which is well above the typical significance threshold of 0.05. The negative coefficient contradicts the hypothesis that the relationship is positive. Therefore, **H1 is not supported**. These findings align with the research conducted by Ratmono (2021). From 8 companies being analyzed, only two maintained

ISO 14001 certification consistently over six consecutive years. The remainder did not possess ISO 14001 certification, and one company held the certification only during the first three years (2018, 2019, and 2020). Stakeholder theory suggests that a company's strategic and operational behaviors are extensively influenced by the demands and expectations of its critical stakeholders, including investors, customers, regulatory authorities, and the local communities. If these stakeholders do not prioritize environmental concerns or are unaware of the advantages associated with ISO 14001 certification, companies may lack sufficient motivation to engage in the strenuous process required to acquire and sustain such certification.

Board Size has no positive effect on carbon emission disclosure. The regression model reveals a positive coefficient for board size, implying a potential association where an increased board size could enhance carbon emission disclosure. However, the statistical analysis demonstrates that this relationship is not statistically significant, as indicated by a p-value of 0.849. This lack of significance suggests that the effect is not consistently observable across the dataset. Consequently, Hypothesis 2 (H2), which stated that board size positively and significantly affects carbon emission disclosure, is not supported by the empirical data. This finding contradicts the research by Yunus et al. (2016), which identified a significant and positive relationship between board size and carbon emission disclosures. Their study suggests that larger boards may enhance the breadth and depth of environmental disclosures due to a diversity of expertise and perspectives that promote transparency and accountability in reporting. This implies that the effectiveness of board size in promoting carbon emission disclosure may vary across different contexts and industries.

The analysis indicates that CEO power significantly enhances the relationship between environmental performance and carbon emission disclosure. The interaction term shows a positive coefficient of 2.18 with a statistically significant p-value of 0.037, suggesting that CEO power amplifies the effect of environmental performance on carbon emission disclosure. This finding aligns with prior research which highlights the crucial role of CEO influence in shaping corporate environmental practices. For example, studies by Deegan (2019) and Ellerup Nielsen (2018) found that CEOs with substantial power can drive greater transparency and commitment to environmental reporting, reflecting stakeholder and legitimacy theories that emphasize the importance of managing stakeholder perceptions and meeting societal expectations to maintain legitimacy.

In contrast, the regression analysis of the interaction between CEO power and board size revealed a negative and statistically significant relationship with carbon emission disclosure, evidenced by a regression coefficient of -2.57 and a p-value of 0.015. This result suggests that while larger boards are typically expected to enhance governance through increased diversity of expertise and perspectives, the presence of a powerful CEO might undermine these benefits. This interpretation is consistent with agency theory, which posits that longer CEO tenures can lead to entrenchment, thereby disproportionately increasing the CEO's influence and potentially hindering the board's ability to oversee transparency and sustainability efforts effectively (Zajac & Goranova, 2024). This perspective is supported by research from Wang and Shailer (2018) and Oliveira et al. (2016), which discusses how CEO entrenchment can impact corporate governance dynamics and disclosure practices (Berns et al., 2021).

CONCLUSION

Based on the analysis and discussion previously elaborated, several key conclusions emerge from the study. Firstly, Hypothesis 1, which suggested that the Environmental Management System ISO 14001 significantly influences carbon emission disclosure in the transportation and logistics industry, is not supported. This indicates that the ISO 14001 certification does not necessarily impact the level of carbon emission disclosure among companies in this sector. The research, however, is confined to the industry, which limits the generalizability of the findings. The utilization of ISO 14001 and environmental performance metrics in this industry is not as widespread, suggesting a potential underutilization of these environmental management tools in enhancing transparency regarding carbon emissions. Therefore, it is recommended that future research expand the sample beyond the transportation and logistics sector to include companies from various industries. This expansion would help in understanding the broader impacts of environmental management systems like ISO 14001 on emission disclosures. For future studies, it would be advisable to include additional variables that might influence disclosure, such as corporate governance measures and the presence of an environmental or sustainability committee. Such factors could provide deeper insights into the mechanisms through which companies manage and report their environmental impact.

REFERENCES

- Al Baroudi, H., Awoyomi, A., Patchigolla, K., Jonnalagadda, K., & Anthony, E. J. (2021). A review of large-scale CO₂ shipping and marine emissions management for carbon capture, utilisation and storage. *Applied Energy*, *287*, 116510.
- Bashir, M. F., Ma, B., Bashir, M. A., Radulescu, M., & Shahzad, U. (2022). Investigating the role of environmental taxes and regulations for renewable energy consumption: evidence from developed economies. *Economic Research-Ekonomska Istraživanja*, *35*(1), 1262–1284.
- Ben-Amar, W., Chang, M., & McIlkenny, P. (2017). Board gender diversity and corporate response to sustainability initiatives: Evidence from the carbon disclosure project. *Journal of Business Ethics*, *142*(2), 369–383.
- Berns, J. P., Gupta, V. K., Schnatterly, K. A., & Steele, C. R. (2021). Chief executive officer dismissal: a multidisciplinary integration and critical analysis. *Group & Organization Management*, *46*(2), 362–398.
- Bhatti, A., Rehman, S. U., & Rumman, J. B. A. (2020). Organizational capabilities mediates between organizational culture, entrepreneurial orientation, and organizational performance of smes in pakistan. *Entrepreneurial Business and Economics Review*, *8*(4), 85–103. <https://doi.org/10.15678/EBER.2020.080405>
- Boivie, S., Bednar, M. K., Aguilera, R. V., & Andrus, J. L. (2016). Are boards designed to fail? The implausibility of effective board monitoring. *Academy of Management Annals*, *10*(1), 319–407.
- Chen, C.-S., Yu, C.-C., & Hu, J.-S. (2018). Constructing performance measurement indicators to suggested corporate environmental responsibility framework. *Technological Forecasting and Social Change*, *135*, 33–43.
- Data, P. (2019). Inventarisasi Emisi GRK Sektor Energi. *Jakarta: Pusat Data Dan Teknologi Informasi Energi Dan Sumber Daya Mineral Kementerian Energi Dan Sumber Daya Mineral*.
- 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.
- Ellerup Nielsen, A., & Thomsen, C. (2018). Reviewing corporate social responsibility communication: a legitimacy perspective. *Corporate Communications: An International Journal*, 23(4), 492–511.
- Ghozali, I. (2017). Chariri. 2017 "Teori Akutansi." *Semarang: Badan Penerbit Universitas Diponegoro*.
- Herinda, F., Masripah, M., & Wijayanti, A. (2021). Pengaruh Profitabilitas, Leverage dan Gender Diversity Terhadap Pengungkapan Emisi Karbon. *Jurnal Akunida*, 7(2), 139–150.
- Irwhantoko, I., & Basuki, B. (2016). Carbon emission disclosure: Studi pada perusahaan manufaktur Indonesia. *Jurnal Akuntansi Dan Keuangan*, 18(2), 92–104.
- Jansen, M., van Tulder, R., & Afrianto, R. (2018). Exploring the conditions for inclusive port development: the case of Indonesia. *Maritime Policy & Management*, 45(7), 924–943.
- Michelon, G., Pilonato, S., & Ricceri, F. (2015). CSR reporting practices and the quality of disclosure: An empirical analysis. *Critical Perspectives on Accounting*, 33, 59–78.
- Ociepa-Kubicka, A., Deska, I., & Ociepa, E. (2021). Organizations towards the evaluation of environmental management tools ISO 14001 and EMAS. *Energies*, 14(16), 4870.
- Oliveira, J. A., Oliveira, O. J., Ometto, A. R., Ferraudo, A. S., & Salgado, M. H. (2016). Environmental Management System ISO 14001 factors for promoting the adoption of Cleaner Production practices. *Journal of Cleaner Production*, 133, 1384–1394.
- Prasetyo, A. S. (2018). Determinants of demand for money and the velocity of money in Indonesia. *Journal of Developing Economies*, 3(2), 10.
- Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management*, 62(2), 147–169.
- Ratmono, R., & Septiana, N. (2021). Pengaruh Persepsi Teknologi Dan Persepsi Risiko Terhadap Kepercayaan Pengguna M-Banking Bri Konvensional: Studi Pada Mahasiswa Feb Um Metro. *Derivatif: Jurnal Manajemen*, 15(2), 294–305.
- Safutri, D., Mukhzarudfa, M., & Tiswiyanti, W. (2023). Pengaruh Pengungkapan Emisi Karbon, Tata Kelola Perusahaan dan Kinerja Keuangan: Studi Di Indonesia. *Jurnal Akademi Akuntansi*, 6(2), 273–293.
- Sofiana, I. S. (2022). *Analisis Carbon Emission Disclosure: Ditinjau dari Aspek Corporate Governance Strength dan Kinerja Lingkungan (Studi Pada Perusahaan yang Terdaftar di Jakarta Isamic Indeks (JII) Tahun 2018-2020)*. IAIN KUDUS.
- Velte, P., Stawinoga, M., & Lueg, R. (2020). Carbon performance and disclosure: A systematic review of governance-related determinants and financial consequences. *Journal of Cleaner Production*, 254, 120063.
- Wang, H., Tong, L., Takeuchi, R., & George, G. (2016). Corporate social responsibility: An overview and new research directions: Thematic issue on corporate social responsibility. In *Academy of Management journal* (Vol. 59, Issue 2, pp. 534–544). Academy of Management Briarcliff Manor, NY.
- Wang, K. T., & Shailer, G. (2018). Does ownership identity matter? A meta-analysis of research on firm financial performance in relation to government versus private ownership. *Abacus*, 54(1), 1–35.
- Xu, B., & Xu, R. (2022). Assessing the role of environmental regulations in improving energy efficiency and reducing CO2 emissions: Evidence from the logistics

- industry. *Environmental Impact Assessment Review*, 96, 106831.
- Yu, Y., Li, S., Sun, H., & Taghizadeh-Hesary, F. (2021). Energy carbon emission reduction of China's transportation sector: An input–output approach. *Economic Analysis and Policy*, 69, 378–393.
- Yunus, S., Elijido-Ten, E., & Abhayawansa, S. (2016). Determinants of carbon management strategy adoption: Evidence from Australia's top 200 publicly listed firms. *Managerial Auditing Journal*, 31(2), 156–179.
- Zahara, R. (2024). The Effect of Service Quality on Trust and Its Implications for Patient Loyalty. *Dinasti International Journal of Economics, Finance & Accounting*, 5(2), 368–384.
- Zajac, E. J., & Goranova, M. (2024). When the principal is the firm's problem: Principal costs and their corporate governance implications. *Academy of Management Review*, ja, amr-2022.

Copyright holder:

Rita Agustin, Ratlan Pardede (2024)

First publication right:

Journal of Social Science

This article is licensed under:

