

Contributing Factors of Carbon Emission Disclosure: Evidence From Transportation Companies In Indonesia

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Abstract

This study aims to determine the impact of capital expenditures, company age, independent commissioners, and profitability on carbon emission disclosures. This study employs annual reports as its data source, while its analysis unit is an entity sourced from the Indonesia Stock Exchange. The investigation utilized measurements at a single point in time between 2018 and 2020. This study's population comprises transportation-sector companies listed on the Indonesia Stock Exchange within the past three years (2018-2020). The sample selection procedure uses purposive sampling techniques, yielding 45 annual reports as samples. E-Views 10 was used in this study's analysis instruments. This study concludes that capital expenditure has no effect on carbon emission disclosure (H1 rejected), company age affects carbon emission disclosure (H2 accepted), independent commissioners have no effect (H3 rejected), and profitability has no effect (H4 rejected). Future benefits of carbon emission disclosure necessitate that policymakers develop a policy regarding carbon emissions in light of this finding.

Keywords: Carbon Emission; Disclosure; Indonesia.

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Introduction

In the current economic era, corporations have international political obligations agreed upon in June 1992 in Rio de Janeiro, Brazil. The Earth Summit's commitments seek to popularize the concept of sustainable economic development, that is, economic development that meets the needs of the current generation without jeopardizing the interests of future generations. The United Nations Framework Convention on Climate Change (UNFCCC) established an international amendment called the Kyoto Protocol. The Kyoto Protocol is an international agreement established in 1997 in Kyoto, Japan. The convention's purpose is to require Annex 1 members to reduce greenhouse gas (GHG) emissions, as recent climate change has been caused by the accumulation of fossil fuel use since the Industrial Revolution of 1850. Carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFC), and hydrofluorocarbons (HFCs) are the six greenhouse gases designated for reduction in the Kyoto Protocol (Irwhantoko & Basuki, 2016).

Indonesia's Law No. 98 of 2021 ratified the Kyoto Protocol because sustainable development and participation in global efforts to reduce greenhouse gas emissions are in the country's national interest. Implementing the Economic Value of Carbon for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions, Presidential Regulation No. 98 of 2021 Also encouraged in National Development are corporate actors to participate in efforts to reduce greenhouse gas emissions. France released the Paris Agreement to address climate change as a replacement for the Kyoto Protocol at the 2015 UN Climate Change Summit, or COP, in Paris. At the 21st UN Climate Change Conference in Paris, France, 195 nations' delegates negotiated the accord. This agreement was signed on April 22, 2016, in Indonesia. Indonesia has agreed to reduce its greenhouse gas emissions by 1.49 percent, but more is needed to keep global temperatures below 2 degrees Celsius. Since deforestation is the primary source of greenhouse gas emissions (Climate Transparency, 2017), experts suggest that Indonesia must improve its forest conservation efforts to fulfill the goals of the Paris Agreement.

Intergovernmental Panel on Climate Change (IPCC) 52nd Session (IPCC-52nd Session) took place from February 24 to 28, 2020; it was named IPCC-52. The conference was held at the UNESCO headquarters in Paris, France, and the central topic was the framework for the Sixth Assessment Report Synthesis Report. A new study on climate change will be released in 2022, and it will be critical for policymakers since it will include the most recent scientific evidence on the subject. Intergovernmental Science and Policy Platform on Biodiversity and Ecosystem Services met to investigate cooperative employment possibilities (IPBES). For policymakers interested in biodiversity, ecosystems, and the broader benefits they bring, IPBES serves as an authoritative source of scientific evidence. This cooperative effort may improve understanding of the link between nature, biodiversity, and climate change. The climate catastrophe will be handled more effectively in the long run if science and policy have a deeper connection (Ministry of LHK, 2020). According to the Ministry of Environment, forest and land fires in Indonesia they surpassed 1.5 million hectares in 2019. This was due to the duration of the dry season and the high land clearance caused by the burning process. As of 2020, (Cnbcindonesia). As a result, the MOEF designated a PT. PMB commissioner as a suspect in the destruction of protected forests in Sei Hulu Ianjai Batam City, and he is presently being held at the Class Salemba Detention House in the heart of Jakarta. PMB has denied any involvement. According to Yazid Nurhuda, director of criminal Law enforcement for the MoEF, environmental devastation is a severe crime. For allegedly breaking Article 98 paragraph (1) of Law No. 32 of 2009 concerning Environmental Protection and Management, the suspect is facing a potential sentence of 10 (10) years in jail and a maximum fine of Rp. 10 billion.

Information on firms' GHG emission reduction initiatives (which includes the disclosure of carbon emissions) may be gleaned from this data (Carbon Emission Disclosure). The Carbon Disclosure Project's surveys provide in-depth exposure (CDP) information. Founded in London, the CDP is a non-profit organization that requests yearly surveys from corporations impacted by global warming (Zhang et al., 2012). It is primarily concerned with the effects of climate change on business circumstances and the efforts businesses have taken to lessen their emissions of greenhouse gases. Companies

throughout the globe are starting to take climate change seriously, either because of the direct physical consequences on their operations or because of the policy changes implemented to improve people's consumption habits (Iuo et al., 2013). To protect the environment from climate change, businesses should become involved. A corporation's annual report or sustainability report might contain disclosure of carbon emission Indicators as one option. Companies in Indonesia are still reluctant to disclose their carbon emissions since doing so publicly is still considered an option. However, considering the deteriorating environmental circumstances over the last several decades and the rising expectations from all walks of life, businesses should pay greater attention to this. One consideration for companies that disclose carbon emissions is the need to gain legitimacy from stakeholders, avoid threats to their business such as increased operating costs and reputation risk, reduced demand, legal proceedings, fines, and penalties for companies that produce greenhouse gases (Bazhair et al., 2022).

Corporate Social Responsibility (CSR) is a component of this environmental disclosure since it includes information on carbon emission Indices. Allowing companies to disclose information about accounting and other company information that could help them implement policies outlined in their annual report is still voluntary (Sun et al., 2022). Companies' attempts to reduce GHG emissions (including carbon emissions) may be seen via the reporting of carbon emissions. The company's investment operations are essential to its overall strategy since they help the business remain stable. Capital Expenditure is used to carry out this task. It is necessary to make financial sacrifices to buy fixed assets, expand the productive capacity of these assets, and improve operational efficiency to prolong the usable life of these assets. Macroeconomically, capital expenditure supports the country's gross domestic product (GDP) growth and business cycle, among other things (GDP).

The company's age is regarded as having an impact on profitability. The age of a firm may be defined as the amount of time it has existed, developed, and survived. When an issue arises, companies that have been around for a while or may be considered "older" will have more excellent knowledge of handling it. A well-established company is more likely to be recognized by the public than a new one. As a result, the public will be more interested in purchasing the company's goods and services. Companies are compelled to decrease their carbon emissions for a variety of reasons. Corporate governance quality is a factor in carbon emission disclosure, according to studies by Kuzior et al. (2022). Independent commissioners are an essential part of corporate governance. Although the findings could have been more consistent, more testing is required to figure out the consistency of the study's results. This is because the results were inconsistent (Kilic et al. (2018), Ben-Amar et al. (2016), Hollindale et al. (2017). A company's profitability serves as a gauge of how well it is doing. High profitability is a goal for any business. The better a firm performs, the more likely it is to disclose its carbon emissions because of its higher profits. Disclosure of carbon emissions will not be an issue for the corporation. Environmental information is more likely to be disclosed by companies in strong financial standing. Financial performance capabilities include various company initiatives that contribute to emission reduction efforts or, in this case, carbon emissions, such as replacing more environmentally friendly machines or other environmental measures, such as actions to increase CO₂ absorption.

As a result of this study, several new indicators for disclosing carbon emissions have been identified, including investments in renewable and clean energy, as measured by whether management implements investment programs that are renewable and clean energy, as well as investment activities related to renewable and clean energy sources and low carbon strategies, as measured by whether low carbon technology is utilized in the organization's infrastructure. Rooftop solar panels are used to generate electricity from the sun. It's based on E.M. Rogers' 1962 diffusion of innovation theory, which says that the key to adapting is for a specific individual or group to embrace an idea, behavior, or product as something new or creative. When it comes to Legitimacy theory, corporations that create a lot of carbon waste are under more significant pressure from the community, which means that they need to be able to control their carbon waste to maintain their standing in the community. To decrease pollution, a good corporation would rehabilitate its assets. Assets that are well-managed are a sure indicator of a thriving business. Capital expenditure is the money spent on purchasing fixed assets, according to Siddiqua, G.A. & Rehman, A.U. (2018). To meet stakeholder expectations, Indraswari, (2017) said that the company's environmental and social initiatives would get more attention now that its economic operations are secure. Capital expenditure is a component of ecological and social activities since rehabilitated assets fall within the fixed asset category. More ecologically conscious firms are also purchasing newer and more environmentally friendly equipment.

H₁: Capital expenditure has a positive effect on carbon emission disclosure.

According to Dwinanda and Kawedar (2019), under the Legitimacy theory, order corporations are more likely to make environmental disclosures because they may enhance the company's image in the public, allowing the company's operations to be legitimized by the public. The longer a firm has been in business, the better its accounting information. When it comes to annual reports, long-established organizations have a lot of business expertise and tend to seek to enhance value and preserve the company's image, but freshly founded companies are just starting and need more experience (Arvidsson & Dumay, 2021 Vasconcelos, R., & Oliveira, M. (2017) suggest that a company's ability to innovate increases with science.

H₂: The company's lifespan has a positive effect on carbon emission disclosure.

A genuinely independent commissioner has no familial or business ties to the board or shareholders. For open Limited Liability Companies, the absence of a connection necessitates that an independent commissioner act objectively and be capable of identifying the issues that require their appointment. As reported by Zamil et al. (2023), the presence of independent commissioners significantly influences a company's disclosure of carbon emissions. According to Trufvisa and Ardiyanto (2019), if more independent commissioners are not linked with other board members and directors, they can make impartial decisions regarding carbon emission disclosures.

H₃: Independent commissioners positively affect carbon emission disclosure.

Successful businesses have more resources and are more motivated to participate in a voluntary project, such as carbon reduction, than less lucrative firms. Those with high profitability are more likely to make voluntary disclosures, such as reporting carbon emissions, than those with low profitability (Apriliana et al., 2019), and this is one of the most prevalent types of disclosure. Companies with a high level of profitability will face increased pressure from legitimacy stakeholders to improve their environmental performance and social responsibility because they are in the public view (Koeswandini and Kusumadewi, 2019).

H₄: Profitability positively affects carbon emission disclosure.

Research Design and Method

For this project, we evaluate hypotheses regarding how per capita expenditure, business age, independent commissioners, and profitability influence carbon emission disclosure. In this study, the unit of analysis is an Indonesian stock exchange company. This study's population (2018–2020) consists of the Indonesian Stock Exchange (IDX)-listed enterprises in the transportation industry in Indonesia. To select the samples, strategic sampling techniques are applied. Table 1 describes the criteria for selecting research subjects for study inclusion.

Table 1. Sampling Criteria

| No. | Criterion | Total |
|---|--|-------|
| 1. | The company belongs to the active transportation sector and is listed on the Indonesia Stock Exchange for the period 2018-2020 in a row. | 29 |
| 2. | Companies that do not publish full annual reports and research data during the period 2018-2020. | (14) |
| 3. | Companies that do not issue annual reports in rupiah currency units during the period 2018-2020 | 0 |
| Data Available | | 15 |
| Total observations during the 3-year study period | | 45 |

The data used for research is secondary data from annual reports published by the Indonesia Stock Exchange (IDX) or www.idx.co.id in the annual report data of companies listed on the exchange.

Table 2. Measurement of Variable

| Variabel | Indicator / Item | Major References |
|----------|---|----------------------------|
| CAPEX | $CAPEX = \frac{NET\ PPE\ (Fixed\ Asset)}{Total\ Asset}$ | Gordon and Lyengar (1996) |
| AGE | $Age = Log\ umur\ perusahaan$ | Ilaboya and Ohiokha (2016) |
| INDCOM | $KI = \frac{Total\ Independent\ Commissioner}{Total\ Commissioner}$ | KNKG (2006) |
| PRFT | $PRFT = \frac{Net\ Profit}{Total\ asset}$ | Hery (2017) |
| CED | <ul style="list-style-type: none"> • PI1 – Description of risks (regulatory, physical or general) relating to climate change and actions taken or to be taken to manage risks. • PI2 – Description of current (and future) financial implications, business implications and climate change opportunities. • GRK1 – Description of the methodology used to calculate GHG emissions (e.g., GHG protocol or ISO) • GRK2 – The existence of external verification on the amount of GHG emissions – if so by whom and on what basis. • GHG 3 – Proof of total GHG emissions - metric tons of CO2-e emitted, cost-related. • GHG 4 – Proof of disclosure by scopes 1 and 2, or scope 3 direct GHG emissions. • GHG 5 – Proof of disclosure of GHG emissions by source (e.g., coal, electricity, etc.) • GHG 6 – Evidence of GHG emissions compared to the previous year. | Darus et.al (2019) |
| | <ul style="list-style-type: none"> • GHG 7 – Description of the reasons for changing emission levels from year to year. | |
| | <ul style="list-style-type: none"> • KE1 – Proof of total energy consumed in business operations (e.g., tera-joule or peta-joule) | |
| | <ul style="list-style-type: none"> • KE2 – Proof of energy used from renewable sources | |
| | <ul style="list-style-type: none"> • KE3 – Disclosure by type, facility or segment. | |
| | <ul style="list-style-type: none"> • AKB1 - Evidence of a special council committee (or other executive body) that has overall responsibility for actions related to climate change. | |
| | <ul style="list-style-type: none"> • AKB2 - Description of the mechanism by which the board (or other executive body) reviews a company's progress on climate change. | |
| | <ul style="list-style-type: none"> • IRC1 – Management creates investment programs that are renewable and clean energy. | |
| | <ul style="list-style-type: none"> • IRC2 – Management conducts investment activities in connection with renewable and clean energy sources. | |
| | <ul style="list-style-type: none"> • SLC1 – The use of low carbon technolog in enterprise infrastructure. | |
| | <ul style="list-style-type: none"> • SLC2 – The use of solar energy through skylights, monitor roofs and window roofs. | |
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Results and Discussion

Statistical Result

The study included capital expenditures, business life, independent commissioners, and profitability, whereas carbon emissions disclosure was the dependent variable. The average values of these four variables in Table 3 are more significant than their standard deviation values. In this instance, it can be observed that the mean value surpasses the standard deviation, indicating that the standard error of the variable is relatively moderate. This finding serves as an indicator of robust data quality. It may be ascertained that the standard error of the PRFT variable exhibits a significant magnitude despite its mean value being lower than the standard deviation.

Table 1. Descriptive Statistic

| | CED | CAPEX | AGE | INDCOM | PRFT |
|--------------|------------|--------------|------------|---------------|-------------|
| Mean | 0.050617 | 0.579009 | 30.46667 | 0.433042 | -0.034260 |
| Median | 0.027778 | 0.647696 | 25.00000 | 0.500000 | 0.011655 |
| Maximum | 0.208333 | 0.923292 | 70.00000 | 0.666667 | 0.114840 |
| Minimum | 0.000000 | 0.027680 | 11.00000 | 0.250000 | -0.659420 |
| Std. Dev. | 0.046174 | 0.253338 | 15.30538 | 0.118073 | 0.150592 |
| Skewness | 1.208959 | -0.652847 | 0.965072 | 0.309903 | -2.733459 |
| Kurtosis | 4.560386 | 2.212716 | 3.427630 | 2.243535 | 11.05552 |
| Jarque-Bera | 15.52713 | 4.358726 | 7.328105 | 1.793245 | 177.7100 |
| Probability | 0.000425 | 0.113114 | 0.025628 | 0.407945 | 0.000000 |
| Sum | 2.277778 | 26.05543 | 1371.000 | 19.48690 | -1.541721 |
| Sum Sq. Dev. | 0.093810 | 2.823923 | 10307.20 | 0.613416 | 0.997831 |
| Observations | 45 | 45 | 45 | 45 | 45 |

Source: Data Processed

Hypothesis testing is done by conducting multiple regression analyses through several test models, namely the standard, fixed, and random effect models. The first stage that will be done is the Chow test. Table 2 shows that the probability value on the F-test is 0.0001 and the Chi-Square value is 0.0000; both values are smaller than 0.05, so it can be concluded that the model follows the Fixed Effect Model (FEM).

Table 2. Model Selection Test

| | Prob. F-test | Chi-Square |
|--------------|---------------------|-------------------|
| Chow Test | 0.0001 | 0.000 |
| Hausman Test | 0.0016 | 17.458 |

The second stage that will be done is the Hausman test. Table 2 shows that the probability value at the Chi-Square value is 0.0016; the value is smaller than 0.05, so it can be concluded that according to the Hausman test, the model follows the Fixed Effect Model (FEM).

Figure 1 shows that Jarque-Bera's value is 87,415 with a probability value of 0.000, where the probability value is smaller than 0.05, which means that the residual value is distributed abnormally.

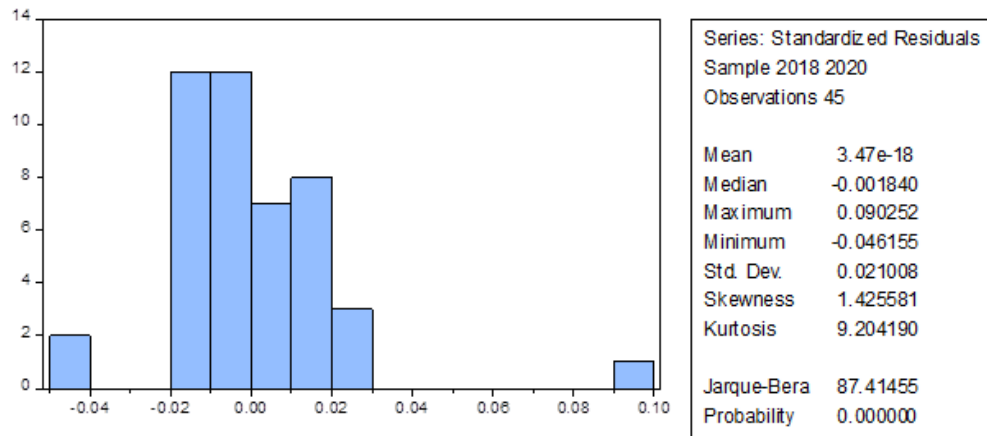


Figure 1. Normality Test

Table 3 shows that the calculation of VIF-centered values for CAPEX, AGE, INDCOM, and PRFT variables has a value of less than 10 (Sugiyono, 2018). Thus, there is no multicollinearity between independent variables in this research model. Table 4 shows that the value of prob. for the variables CAPEX (0.2806), AGE (0.2133), and PRFT (0.990) where the value is more significant than 0.05, this means that no symptoms of heteroscedasticity occur. However, the value of prob. for the INDCOM variable (0.0226), where the value is smaller than 0.05, means that there are symptoms of heteroscedasticity in the variable.

Table 3. Multicollinearity Test

| Variable | Variance Inflation Factor (VIF) |
|----------|---------------------------------|
| CAPEX | 1.019856 |
| AGE | 1.049117 |
| INDCOM | 1.034322 |
| PRFT | 1.034673 |

Table 4. Heteroscedasticity Test

| Variable | Prob. |
|----------|--------|
| CAPEX | 0.2806 |
| AGE | 0.2133 |
| INDCOM | 0.0226 |
| PRFT | 0.9900 |

Table 5. Correlation Analysis

| | CED | CAPEX | AGE | INDCOM | PRFT |
|--------|--------|--------|--------|--------|--------|
| CED | 1 | -0.326 | 0.304 | 0.089 | 0.084 |
| CAPEX | -0.326 | 1 | -0.118 | 0.085 | 0.001 |
| AGE | 0.304 | -0.118 | 1 | -0.130 | -0.148 |
| INDCOM | 0.089 | 0.085 | -0.130 | 1 | 0.122 |
| PRFT | 0.084 | 0.001 | -0.148 | 0.122 | 1 |

Table 5 shows that all independent variables correlate with dependent variables. This means that independent variables have a relationship with dependent variables. According to Table 6, the results of a multiple regression analysis demonstrate that the probability value of capital expenditure (CAPEX) to carbon emission disclosure (CED) is 0.3576 (>0.05), which suggests that capital expenditure does not influence the disclosure of carbon emission. If the company's age has a 0.0068 (0.05) probability against carbon emission disclosure (CED), this suggests that the company's age affects CED. To put it another way, independent commissioners (INDCOM) do not influence carbon emission disclosure (CED) since their probability value is 0.4993 (>0.05). There is no correlation between profitability (PRFT) and carbon emission disclosure (CED), with a probability value of 0.6219 (>0.05). A 64.97 % determination coefficient is shown in Table 8 with an R-squared value of 0.649706. According to this data, the free variable can explain 64.97 % of the variance in the bound variable. The resulting regression equation is as follows.

$$CED = 0.0346CAPEX + 0.0161AGE + 0.0504INDCOM + 0.0342PRFT - 0.4826.....$$

Table 6. Multiple Regression Analysis Fixed Effect Model

| Variable | Coefficient | Probability |
|----------|-------------|-------------|
| Constant | -0.4826 | 0.0064 |
| CAPEX | 0.0346 | 0.3576 |
| AGE | 0.0161 | 0.0068 |
| INDCOM | 0.0504 | 0.4993 |
| PRFT | 0.0342 | 0.6219 |
| R2 | 0.6497 | |

Discussion

The findings of the multiple regression analysis revealed that capital expenditure does not influence carbon emission disclosure. As a result, the company's capital expenditures on fixed assets, such as purchasing fixed assets, growing fixed asset capacity, and extending the use of fixed assets, are all geared at improving the company's profits. The top management still focuses on how to create assets sustain and growth. For instance, when considering asset allocation decisions, this will require a review of the allocation rules, which may not necessarily be solely based on popular measures such as risk-adjusted returns. Hence, the capital expenditure does not include sustainability factors: people, planet, and profit. The firm is still focusing on the profit side only, while they should start looking into sustainability. Voluntary disclosure of carbon emissions significantly impacts this since corporations are likely to pay attention to it. It also needs support from regulators in Indonesia to make carbon emission disclosure compulsory disclosure, especially for companies that regard nature.

The age of the firm has a positive impact on the disclosure of carbon emission data. Better or worse, the more time a firm has been in business, the better it can disclose its carbon emissions. An older company will has more experience dealing with problems, and will knows what to do when they arise because of its established history. Companies that

have been around for a long time are more well-known to the public, and as a result, they need greater openness than start-ups. The age of the business demonstrates that it can stably carry on with business operations and compete with other businesses. The company's period is directly tied to and affects financial statements because it reflects its expansion and development. It is believed that established companies can offer thorough information on carbon emissions and the specific steps businesses take to minimize them. Compared to younger organizations, older ones are more likely to build a solid reputation for social responsibility and legitimacy. If a company has been in business for a while, the information it provides to stakeholders will become increasingly comprehensive. This impacts public perception and a wide range of social networks. The larger the company size, the larger the assumptions or expectations given to the company, so large-scale enterprises tend to have more significant and special attention (Hery, 2017). Indirectly, large-scale companies must conduct environmental disclosure, which is carbon emissions, because stakeholders have high expectations of the company's environmental responsibility. Large-scale companies also have a higher ability to provide ecological information on carbon emissions.

Based on the legitimacy theory, older corporations are more likely to make environmental decisions because they may enhance the company's image in the public, allowing its operations to be legitimized by the public. The company should be able to make decisions using information on carbon emissions performance, the company's efforts to reduce carbon emissions, and the firm's role in managing environmental impacts reflected in the disclosure of carbon emissions and other disclosures (Rahmana et al., 2014). Since the organization will be using carbon reporting and management to manage and assess business risks and opportunities related to climate change, stakeholders want the company to be able to evaluate and report the resulting emissions. The stakeholder interest theory and the notion of legitimacy through management perspectives thoroughly justify why businesses take ongoing actions, including their impacts on climate change. The justification is commercial, highlighting the importance of excellent stakeholder relations and a positive public perception of the organization as consequences of sustainability reporting from a managerial perspective.

The older company also has an established corporate structure, so they have a more legitimate team to implement the new reporting, such as carbon emission disclosure. The firm entity must be aware of and convey the carbon emissions produced's role in contributing to global warming. Companies must undertake evaluations, compile reports, make presentations, and declare carbon emissions due to the Kyoto Protocol. The implied goal is to hold the business accountable for its daily operations and to motivate it to take concrete steps to cut carbon emissions. Meanwhile, they need to strengthen the level of firm concern, which can be built by respect for the sustainability concept. The disclosure suggests that transparency is the cornerstone of the public's confidence in the corporate management system. Companies can secure the sustainability of business operations by obtaining stakeholder legitimacy for their operational activities through disclosures in annual reports and financial statements. When companies provide environmental data in their annual reports and financial statements, it can show stakeholders that they care about the environment. Investors will be intrigued by this action, which has the potential to raise

the company's worth and improve its standing. Declaring the company's atmosphere as a corporate social responsibility activity can serve as a signal of the management quality of the organization. In contrast to businesses with lousy performance, those that perform well on average may voluntarily publish a range of information on carbon emissions to stakeholders. Considering this, interested parties can use the information provided by the company in the annual report to make decisions, mainly to evaluate the company's commitment to addressing climate change and the risks associated with carbon exposure because of the company's operational activities. The level of carbon emissions generated by a company's industrial operations and corporate finance management in addressing the effects of climate change are disclosed in the carbon emission disclosure. To calculate carbon emissions, a company's age is crucial because it reflects the strength of its stakeholders, strategic approach, and financial performance. The added value of a corporation can be increased through environmental transparency and policy-forming ecological conservation measures. Mature companies have more excellent knowledge and a better understanding of the informational needs of their constituents. Older companies can be examples of how a company can succeed despite various stakeholder expectations and governmental regulations. The company hopes to positively impact and build a positive reputation by disclosing carbon emissions, allowing it to operate effectively.

The company's disclosure of carbon emissions increases as it continues to function. This demonstrates to the neighborhood that the business is actively involved in environmental protection. Long-standing stock exchange-listed companies typically have more resources and experience. Voluntary disclosure, including the disclosure of carbon emissions, will improve. The more significant business will promote voluntary disclosure. The carbon emissions disclosure is information about the carbon emissions, which is attached and provided by the company from the annual report or annual report, as well as the company's sustainability report. The disclosure of emissions information in the annual report demonstrates the transparency and accountability of a corporation for its operational activities (Deantari et al., 2019). Carbon emissions disclosure is a form or example of the disclosure of environmental information that is the unity of additional reports as voluntary disclosures made by the company.

No effect of the independent commissioners on carbon emission disclosure can be concluded, which indicates that independent commissioners only serve to satisfy the Indonesia Stock Exchange's governance requirements, but the usefulness of their existence still needs to be determined. On the other hand, the independent commissioners need to pressure top management to do carbon emission disclosure appropriately. An independent commissioner does not currently oversee carbon emission disclosures. It can happen because the independent commissioners are only concerned about general issues regarding society; they are not worried about specific topics such as climate change. Thus, the knowledge about climate change needs to be improved, and the strategy company needs to adjust to face this issue, one of which is to decrease carbon emissions generated by the company, both from the company's operations or coming from changing a habit of a company member.

Profitability does not influence carbon emission reduction. In the transportation industry, COVID-19 presents several significant issues which might have a destructive

impact on profitability. Firms with weak financial standing are more prone to limit the release of environmental data, notably information on carbon emission Indices. The cost might still be centered on increasing the profit side. Thus, several companies invested in carbon emissions, but there is no actual monetary benefit that the company gets. There is no relationship between profitability and carbon emission disclosures due to high profits and assets owned by debt, so the entities will decide not to pay for voluntary disclosures but instead choose to pay to lenders as a form of obligation that must be done.

Conclusions

This study concludes that capital expenditure does not affect carbon emission disclosure, the company's age affects carbon emission disclosure, independent commissioners do not involve carbon emission disclosure, and profitability does not affect carbon emission disclosure. This study has several limitations, including statistical results, abnormally distributed normality tests, and heteroscedasticity tests for independent commissioner variables with less suitable effects. For future research, samples from other types of industries with more examples are needed. This research also only uses the annual report as a source of research data so that future research can use a combination of annual reports and sustainability reporting as a source of research data. Based on this result, policy makers must create a policy regarding carbon emissions due to carbon emission disclosure having many benefits in the future.

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