The Impact of Carbon Trading, Firm Size, Profitability, and Leverage on Company Value

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ABSTRACT

This study aims to understand how carbon trading activities and other financial factors collectively influence firm value in a business context that is increasingly concerned with sustainability issues. This study is quantitative, employing Structural Equation Modeling (SEM) analysis using Smart PLS 3.0. The population and sample comprise consumer goods manufacturing companies listed on the Indonesia Stock Exchange in 2022. A purposive sampling technique was used to select 131 companies. Data were collected through annual financial reports obtained from the Indonesia Stock Exchange and their official websites. This study consists of independent variables and dependent variables. The results show a significant negative relationship between carbon trading activities and firm value. This means that the more active a company is in carbon trading, the lower its firm value. There is a significant positive relationship between firm size and firm value. Larger companies tend to have higher firm values. There is a significant positive relationship between profitability and firm value. More profitable companies tend to have higher firm values. There is no significant relationship between leverage and firm value.

***Keywords**: Carbon Trading, Company Size, Firm Value, Leverage, Profitability.*

ABSTRAK

Penelitian ini bertujuan untuk memahami bagaimana aktivitas perdagangan karbon dan faktor keuangan lainnya secara bersama-sama memengaruhi nilai perusahaan dalam konteks bisnis yang semakin memperhatikan isu-isu keberlanjutan. Jenis penelitian ini adalah kuantitatif dengan menggunakan metode analisis Structural Equation Modeling (SEM) menggunakan Smart PLS 3.0. Populasi dan sampel meliputi perusahaan manufaktur barang konsumsi yang terdaftar di Bursa Efek Indonesia pada tahun 2022. Sampel diambil sebanyak 131 perusahaan dengan menggunakan teknik purposive sampling. Data dikumpulkan melalui laporan keuangan tahunan perusahaan yang diperoleh dari Bursa Efek Indonesia dan situs web resmi perusahaan. Penelitian ini terdiri dari variabel independen dan variabel dependen. Hasil penelitian menunjukkan bahwa terdapat hubungan negatif yang signifikan antara aktivitas perdagangan karbon dengan nilai perusahaan. Artinya semakin aktif suatu perusahaan dalam perdagangan karbon, semakin rendah nilai perusahaannya. Terdapat hubungan positif yang signifikan antara ukuran perusahaan dengan nilai perusahaan. Perusahaan yang lebih besar cenderung memiliki nilai perusahaan yang lebih tinggi. Terdapat hubungan positif yang signifikan antara profitabilitas dengan nilai perusahaan. Perusahaan yang lebih menguntungkan cenderung memiliki nilai perusahaan yang lebih tinggi. Tidak ada hubungan yang signifikan antara leverage dan nilai perusahaan.

***Kata kunci**: Perdagangan Karbon, Ukuran Perusahaan, Nilai Perusahaan, Leverage, Profitabilitas.*

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INTRODUCTION

The rapid growth of business in Indonesia is characterized by an increasing number of companies competing fiercely with one another. The competitive advantages possessed by each company create a constantly changing business landscape. Companies need to continuously innovate and develop their businesses. To achieve this, additional capital is needed. Funding sources can be obtained not only from company owners but also from external parties such as banks or investors. Brata and Soge (2020) state that company value is reflected in stock prices, which reflect investors' perceptions of the company's ability to generate profits and future growth. Investors tend to invest in companies with high stock prices as a token of appreciation for good performance. A company's intrinsic value reflects various interacting factors. Internal factors such as company size, profitability, and financial structure have long been a focus of attention for investors and academics. Companies that actively engage in carbon trading are generally perceived as more socially and environmentally responsible, thereby enhancing their brand reputation.

Investors concerned with environmental, social, and corporate governance tend to choose companies with good environmental performance. According to Claudia (2023), company size indicates that the larger a company is, the greater its resources. Company size can be measured by the entity's assets or total sales. This means that company size is often considered an indicator of a company's strength and growth potential. Larger companies generally have greater access to resources, such as capital, technology, and talent. Larger companies tend to have more diversified business portfolios. This diversification can help reduce business risk and increase revenue stability, which in turn attracts investors and increases company value. Large companies often operate in various sectors, making them better able to weather economic fluctuations. Tana and Diana (2021) note that abundant natural resource availability often correlates with high company profitability. This condition allows companies to be more transparent in disclosing emissions data related to their production activities. High profitability indicates that a company is well-managed and capable of generating consistent profits.

Profitable companies have stronger internal resources to fund growth, innovation, and investment. Claudia (2023) states that leverage provides an overview of a company's ability to finance its operational activities and debt-dependent assets. If debt-financed investments generate high returns, these returns will only be shared with a small portion of the capital from shareholders. This means that shareholders' Return on Equity (ROE) can increase significantly. Previous research has shown a positive relationship between carbon emission disclosure and firm value. Research by Hardianti and Mulyani (2023) states that carbon emission disclosure has a positive effect on firm value. The results of this study also reveal that environmental performance has a significant positive effect on firm value, thus concluding that proper can be used as a corporate signal to increase firm value. The effect of firm size on firm value occurs largely through increased profitability. Profitability cannot mediate the effect of leverage on firm value. Octaviany et al. (2019) state that firm size has a significant effect on profitability but not on firm value.

This indicates that investors pay close attention to a company's financial performance. Most studies show that high leverage tends to lower a company's value. This research can broaden the understanding of the factors influencing a company's value, not only limited to traditional financial metrics such as profitability and leverage, but also encompass environmental aspects such as carbon trading. Based on the background of the problem described above, the author is interested in conducting research related to carbon trading activities and other financial factors such as company size, profitability, and leverage, which jointly influence company value in a business context that is increasingly concerned with sustainability issues. This research is expected to make a significant contribution to the development of science, particularly in the fields of finance and accounting. This study aims to understand how carbon trading activities and other financial factors jointly influence company value in a business context that is increasingly concerned with sustainability issues.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Carbon Trading and Company Value

Carbon trading is a market mechanism designed to reduce greenhouse gas emissions globally by providing financial incentives to companies that successfully reduce their emissions below a predetermined quota. Through this system, companies with excess carbon credits can sell them to other companies with excess emissions. This encourages companies to invest in environmentally friendly technologies and energy efficiency, ultimately strengthening the company's long-term position and increasing its value. According to Neliana and Destiana (2021), disclosing carbon emissions as a form of corporate social responsibility can improve a company's public image. This positive image results in increased investor interest and consumer loyalty, which in turn contributes to increased profitability and overall company value.

The Indonesian government has demonstrated its commitment through the ratification of the Kyoto Protocol and the issuance of Presidential Regulation Number 98 of 2021, which serves as the basis for developing a carbon trading mechanism and achieving the emission reduction targets stipulated in the national development planning (Prihatiningtyas & Fitriana, 2023). Furthermore, the issuance of financial services authority (*Otoritas Jasa Keuangan*/OJK) Regulation Number 14 of 2023 provides a legal framework for the implementation of carbon trading in Indonesia, although some aspects still need to be reviewed, particularly regarding capital requirements for carbon exchange operators (Ariyanti et al., 2024). Thus, carbon trading is not only an emission control instrument but also has a significant impact on company value (Zhao et al., 2018; Hapsari & Prasetyo, 2020; Setyawan et al., 2025). Companies that are proactive in reducing emissions and providing transparent reporting have the opportunity to improve financial performance, reputation, and investor confidence, all of which ultimately lead to increased company value in the eyes of the market.

H1: Carbon trading has a significant impact on company value.

Company Size and Company Value

Company size is a crucial factor influencing company value. The larger a company, the greater the public's expectations for its transparency, accountability, and social responsibility (Siahaan et al., 2014; Budisaptorini et al., 2019; Hartoyo & Abdullah, 2023). Sulastini (2007) found a positive correlation between company size and the level of social information disclosure in annual reports. This finding suggests that large companies tend to be more transparent in disclosing non-financial information because they are more vulnerable to public pressure and political risk. Furthermore, Sulastini (2007) also revealed that large companies tend to provide more open information than smaller companies. This is reinforced by Sukandar's statement in Hardianti and Mulyani (2023), which states that theoretically, large companies will always be under pressure to fulfill their social responsibilities. Therefore, the larger the company, the greater the public scrutiny of its performance.

Large companies tend to send positive signals to the market to demonstrate their prospects and performance. Brigham and Houston (2019) also emphasized that larger companies tend to have broader access to capital and investor confidence, which ultimately increases company value. Cahyaningtyas (2022) similarly argued that a company's social and environmental activities can signal management quality and increase company value. Rangga and Kristanto (2023) supported this view by finding that company size influences company value through social responsibility disclosure mechanisms and financial policies. Company size is typically measured using total assets, and the natural logarithm of total assets is often used to allow comparisons between companies of different sizes (Hardianti & Mulyani, 2023). Thus, company size plays a strategic role in shaping market perceptions and increasing company value.

H2: Company size has a significant effect on company value.

Profitability and Company Value

Profitability is a key indicator for measuring a company's ability to generate profits and serves as a benchmark for the success of management performance and the creation of corporate value. Octaviany et al. (2019) state that profitability reflects the level of efficiency of a company's asset management in generating profits. Therefore, higher profitability indicates a better growth and image for the company in the eyes of investors. Profitability also plays a role in evaluating business strategies, measuring performance trends, and providing a basis for managerial decision-making. According Octaviany et al. (2019), profitability ratios serve to measure how efficiently management utilizes assets to generate maximum profits. Comparative analysis of profitability between periods allows companies to assess the growth and effectiveness of implemented strategies. This ratio is typically proxied by Return on Assets (ROA), which emphasizes the relationship between net income and total assets (Nurwulandari, 2021; Bon & Hartoko, 2022).

Profitability is an important signal that companies can use to demonstrate prospects and added value to investors. Brata and Soge (2020) found that profitability has a significant positive effect on firm value because high profits provide investors with confidence in the company's financial condition. Furthermore, Rangga and Kristanto (2023) and Hardianti and Mulyani (2023) emphasized that profitability is a crucial determinant of firm value, even when influenced by other factors such as carbon emissions disclosure or debt policy. Ramadhan et al. (2023) demonstrated that profitability has a substantial influence on firm value and can act as a mediator in the relationship between other variables and that value. Research by Lestari and Lestari (2024) and Sarvasti and Widoretno (2024) also confirmed that profitability has a direct and significant influence on stock prices, which reflects a firm's value in the market.

H3: Profitability has a significant effect on company value.

Leverage and Company Value

Leverage is an important indicator in assessing a company's capital structure and its relationship to company value. Leverage indicates the extent to which a company finances its operational activities through debt, which directly reflects the level of financial risk it faces. Luo, as cited in Hardianti and Mulyani (2023), states that a high level of debt in a company indicates greater financial risk, potentially reducing the company's value if not managed properly. Furthermore, Rangga and Kristanto (2023), explains that the terms leverage and solvency ratio essentially refer to the same thing: the extent to which a company uses debt to finance its activities. This ratio provides an overview of a company's capital structure and serves as a basis for assessing its ability to meet its financial obligations.

While the use of debt can increase profits through the leverage effect, it also increases business risk, especially if the company's revenues are unable to cover interest and principal expenses. Using debt ratios, such as the Debt to Equity Ratio (DER), is a way to measure how much of a company's assets are financed by debt and how much of its equity is used as collateral. This ratio is crucial in management's decision-making process regarding capital structure policy. Octaviany et al. (2019) state that debt policy reflects management's effectiveness and efficiency in managing a company's finances. If leverage is too high, a company can fall into the extreme leverage category, characterized by a large debt burden and difficulty meeting its financial obligations.

H4: Leverage has a significant effect on company value.

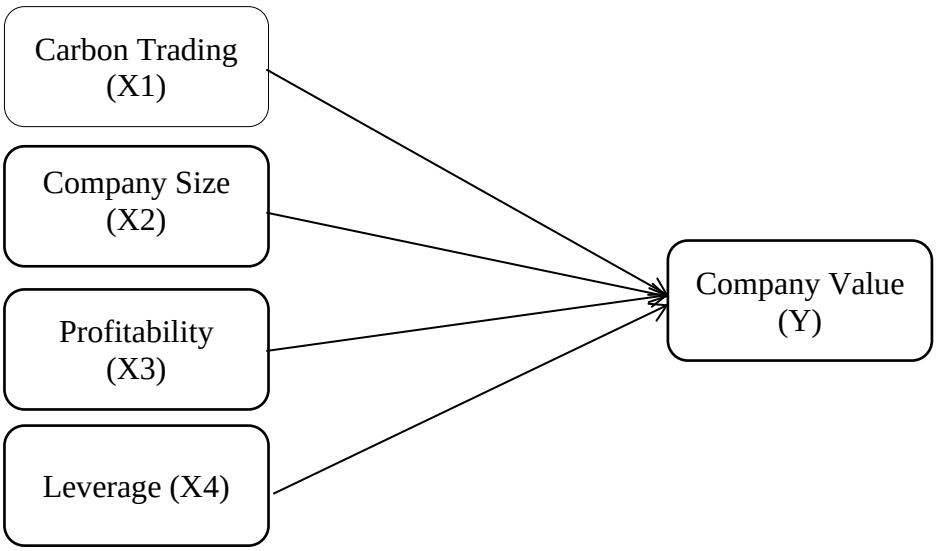

Figure 1. Framework of Thought

Figure 1 shows a research framework that illustrates the relationship between four independent variables Carbon Trading (X1), Company Size (X2), Profitability (X3), and Leverage (X4) and Firm Value (Y) as the dependent variable. This model aims to analyze how each factor influences a company's market perception and value. Carbon trading (X1) reflects a company's environmental commitment, which can enhance its reputation and attract investors. Company size (X2) indicates its resource capacity and public exposure, which can potentially increase investor confidence. Profitability (X3) describes a company's ability to generate stable profits, which is an important indicator for assessing company value. Meanwhile, leverage (X4) reflects a company's funding structure, which can impact financial risk. The relationship between these four variables and firm value provides a holistic understanding of the factors that determine a company's sustainability and competitiveness in the market.

RESEARCH METHOD

This study employed quantitative research and analysis using the Structural Equation Model (SEM) with Smart PLS version 3.0. This study consisted of five variables: carbon trading, company size, profitability, and leverage as independent variables, and firm value as dependent variable. Structural Equation Modeling (SEM) is a multivariate statistical technique that allows researchers to construct and derive causal models (Putlely et al., 2021). The population in this study were consumer goods companies listed on the Indonesia Stock Exchange in 2022, and a sample of 131 companies was taken. Sampling was conducted using a purposive sampling technique. The object of this study was financial documents (financial reports and sustainability reports), while the subjects were consumer goods manufacturing companies listed on the IDX in 2022.

The data used were secondary data, taken from indirect sources such as documents. The secondary data in question is the annual financial reports of consumer goods manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2022 period, obtained through www.idx.com. The data collection methods used were library research and documentation, namely data obtained from annual reports and derivative reports published by companies in 2022 on their official websites and the IDX website.

Surajiyo et al. (2021), stated that the analysis techniques used in the SEM method include model identification, consistency of parameter values among equivalent sets as the basis for identifying these parameters, confirmatory factor analysis (CFA), an observed variable is considered influential or important in a study if its t-statistic value reaches at least 1.96 for a 5% error rate or 2.58 for a 10% error rate (Gunarto, 2019). This

means we are reasonably confident that the variable's influence is not due to chance and model modification. If the predicted results of a model do not align with the observed data, the model needs to be revised. The suitability of a model can be assessed from its residual matrix. If the values in the residual matrix are close to zero, then the model is considered to have a good level of fit with the data. In contrast, if the values in the residual matrix are very large, then the model is considered not to fit the data. After the SEM model parameter estimation process is complete, the next step is to achieve model fit with the data, both overall and for each variable.

RESULTS

To ensure data quality, this study applies two measurements of convergent validity test, the validity of the measurement model in this study is evaluated based on two main criteria, namely: a minimum loading factor value of 0.7 and a minimum Average Variance Extracted (AVE) value of 0.5. If both criteria are met, then the measurement model is considered valid.

Table 1. Convergent Validity Test

Variables	Indicator	Outer Loading	AVE	Description
Carbon Trading (X1)	X1.1	0.908	0.867	Valid
	X1.2	0.942		Valid
	X1.3	0.943		Valid
Company Size (X2	X2.1	0.896	0.769	Valid
	X2.2	0.914		Valid
	X2.3	0.822		Valid
	X2.4	0.872		Valid
Profitability (X3)	X3.1	0.842	0.712	Valid
	X3.2	0.824		Valid
	X3.3	0.818		Valid
	X3.4	0.873		Valid
	X3.5	0.860		
Leverage (X4)	X4.1	0.917	0.887	Valid
	X4.2	0.952		Valid
	X4.3	0.956		Valid
Company Value (Y)	Y1	0.866	0.754	Valid
	Y2	0.917		Valid
	Y3	0.802		Valid
	Y4	0.864		Valid
	Y5	0.889		Valid

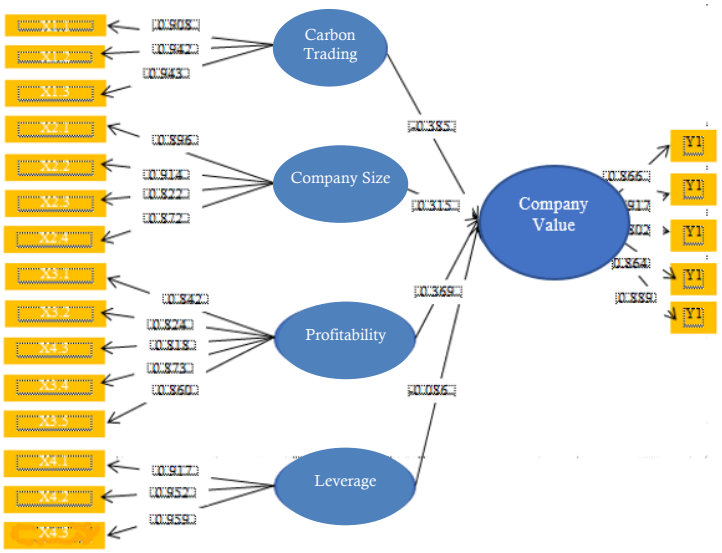

Figure 2. Outer Loading

The results of the convergent validity test and the Structural Model in Table 1 and Figure 2 shows that the indicators used to measure carbon trading variables namely, firm size, profitability, leverage, and firm value demonstrate a good level of convergence. Two methods were used to test construct reliability: the composite reliability test and the Cronbach's alpha test. A construct is considered reliable if the composite reliability and Cronbach's alpha values are above 0.7.

Table 2. Composite Reliability and Cronbach's Alpha

Variables	Composite Reliability	Cronbach's Alpha	Description
Carbon Trading	0.951	0.924	Reliable
Company Size	0.930	0.899	Reliable
Profitability	0.925	0.899	Reliable
Leverage	0.859	0.937	Reliable
Company Value	0.939	0.918	Reliable

The test results in Table 2 shows that all variables in this study showed Composite Reliability and Cronbach's Alpha values above 0.7, which is the minimum limit for declaring a construct reliable. The Carbon Trading variable has a composite reliability value of 0.951 and a Cronbach's Alpha of 0.924, indicating very strong internal consistency. The Company Size variable also showed a high level of reliability with a composite reliability of 0.930 and a Cronbach's Alpha of 0.899. Similarly, Profitability obtained a composite reliability value of 0.925 and a Cronbach's Alpha of 0.899, indicating that the variable's measurement instrument was consistent in capturing its indicators. The Leverage variable recorded a composite reliability of 0.859 and a Cronbach's Alpha of 0.937, indicating very good internal consistency, although its composite reliability was slightly lower than the other variables. Meanwhile, the Firm Value variable was also declared reliable, with a composite reliability of 0.939 and a Cronbach's Alpha of 0.918. Overall, these results demonstrate that all indicators used in this study have high reliability and are able to measure their constructs consistently and accurately.

Table 3. R-Square Test

Model	Value
R Square	0.417
R Square Adjusted	0.394

The results of the coefficient of determination (R-squared) analysis on Table 3 show that the independent variables X1 (carbon trading), X2 (firm size), X3 (profitability), and X4 (leverage) simultaneously contribute 39.4% to the variation of the dependent variable Y (firm value). This value indicates that the model has a moderate influence, meaning that most changes in firm value can be explained by these four variables. However, there is still 60.6% of the variation influenced by other factors outside this model, such as innovation, management quality, macroeconomic conditions, or other external factors not included in this study. This finding indicates that although the variables analyzed are quite relevant, further exploration of additional variables is needed to strengthen the model's predictive power on firm value, especially in the context of market dynamics and corporate sustainability practices.

The mediation test results shown three possible relationships between the variables in this study. First, there is no mediation effect if the relationship between the independent and dependent variables is positive, while the mediator variable is negative. Second, there is full mediation if the relationship between the independent and dependent variables is negative, while the mediator variable is positive. Finally, partial mediation occurs if all relationships between the variables are positive. In addition, the significance value (p-value) of the specific indirect effect is also used to confirm the mediation test results.

Table 4. Path Coefficient

Hypothesis	Original Sample Mean	Standard Deviation	T Statistics	P Values
Trading Carbon -> Company Value	-0.385	0.197	1.952	0.02
Company Size -> Company Value	0.315	0.139	2.273	0.012
Profitability -> Company Value	0.369	0.125	2.15	0.02
Leverage -> Company Value	0.086	0.91	0.47	0.64

Based on the Table 4, it can be concluded that there is a significant negative relationship between Trading Carbon and Firm Value (p-value < 0.05). There is insufficient evidence to conclude that there is a significant relationship between Company Size and Company Value (p-value > 0.05). There is a significant positive relationship between Profitability and Firm Value (p-value < 0.05). There is insufficient evidence to conclude that there is a significant relationship between Leverage and Firm Value (p-value > 0.05).

Hypothesis testing in this study was carried out by analyzing the t-statistic and p-value. The hypothesis acceptance criterion is a p-value of less than 0.05. The results of the analysis indicate the existence of direct and indirect effects between variables, as confirmed by the structural equation model (PLS).

Table 5. Hypothesis Test

Hypothesis	Analysis
Trading Carbon -> Company Value	Coefficient= -0.385
	P Values = 0.02
	T-Statistic = 1.952
	T-table = 1.656
	T-statistic > T-table
Company Size -> Company Value	Coefficient Value = 0.315
	P Values = 0.012
	T-Statistic = 2.273
	T-table = 1.656
	T-statistic > T-table
Profitability -> Company Value	Coefficient Value = 0.369
	P Values = 0.02
	T-Statistic = 2.15
	T-table = 1.656
	T-statistic > T-table
Leverage -> Company Value	Coefficient Value = 0.086
	P Values = 0.286
	T-Statistic = 0.565
	T-table = 1.656
	T-statistic < T-table

The results of the study in Table 5 of the hypothesis testing showed that Hypothesis 1, the Carbon Trading Variable on Company Value shows a coefficient of -0.385 with a T-statistic value of 1.952> T-table 1.656 and a p-value of 0.02 <0.05. This indicates a statistically significant negative relationship between carbon trading and Company value H1 is rejected. Hypothesis 2 of the Company Size variable on Company Value shows a coefficient of 0.315 with a T-statistic value of 2.273> T-table 1.656 and a p-value of 0.012 <0.05. This means that there is a positive and significant relationship between company size and Company value H2 is accepted. Hypothesis 3 Profitability Variable on Company Value shows a coefficient of 0.369 with a T-statistic of 2.15> T-table 1.656 and a p-value of 0.02 <0.05. This indicates a positive and significant relationship between profitability and the value of the Company H3 is accepted. Hypothesis 4 Leverage Variable on Company Value shows a coefficient of 0.086 with a T-statistic of 0.47 < T-table 1.656 and a p-value of 0.64 > 0.05. These results indicate that leverage does not have a significant effect on the value of the Company H4 is rejected.

DISCUSSION

The results of this study reveal interesting findings relevant to investment decision-making and corporate sustainability strategies. Regarding carbon trading, it was found that carbon trading activities significantly negatively impacted firm value (Mulya & Rohman, 2020; Dewi & Budiadnyani, 2024; Apriliani et al., 2024). This contradicts the initial assumption that corporate engagement in environmentally friendly activities such as carbon trading would increase firm value because it is considered to reflect a commitment to sustainability. In the context of signaling theory, as explained by Brigham and Houston (2019), companies can send positive signals to the market through specific actions that reflect future performance or prospects. Investors may view carbon trading activities as an additional burden, both in terms of transaction costs, regulatory compliance costs, and the initial investment costs in green technology. As noted by Neliana and Destiana (2021), the economic benefits of environmental sustainability are not always visible in the short term.

Company size has a positive and significant relationship with firm value. This aligns with the classical view that larger companies tend to have better reputations, broader access to financing, and greater business stability (Rangga & Kristanto, 2023; Ariyanti et al., 2024). Sulastini (2007) states that larger companies are also more open in disclosing social and non-financial information, thereby strengthening positive stakeholder perceptions. This finding is supported by Hardianti and Mulyani (2023), who stated that large companies are under high public pressure to maintain their reputation and social responsibility. Large companies are associated with stability, business sustainability, and strong managerial capabilities (Brigham & Houston, 2019). This aligns with the findings of Rangga and Kristanto (2023), who stated that company size has a significant influence on firm value through increased profitability and social disclosure policies.

Profitability was also found to have a positive and significant effect on firm value. This finding is consistent with prior literature stating that profitability is a key indicator of a company's financial performance and growth prospects (Octaviany et al., 2019). High profitability indicates a company's ability to generate profits from its assets and its efficiency in resource management (Widianto & Sari, 2020; Hapsoro & Falih, 2020; Syahdanti & Marietza, 2024). Investors generally respond positively to companies with consistent and stable earnings performance, as this reflects the company's ability to deliver competitive returns in the future (Suartına & Sadıartha, 2019; Djemma et al., 2023).

The results of the study indicate that leverage does not have a significant effect on firm value. This finding contrasts with most studies that state that leverage has a negative effect on firm value because it increases financial risk (Abdulrahman, 2018; Pratama et al., 2023; Aulia et al., 2025). However, in this context, the insignificance of leverage could be due to several factors (Sutianingsih & Handayani, 2021; Suma & Siregar, 2023; Prayogi & Trya, 2024). First, the capital structure of the company being analyzed may have reached an optimal point, so that additional debt no longer has a significant impact (Kholmi et al., 2020; Hardiyansah et al., 2021). Third, in volatile market conditions, investors focus more on other variables with more direct impacts, such as profitability and firm size. Although leverage can be considered a signal of efficient use of funds (due to the leverage effect), in practice, this signal can be weakened if it is not supported by profit performance or a clear growth strategy. As noted by Rangga and Kristanto (2023), the effect of debt policy on firm value is highly dependent on the industry context, the cost of capital structure, and the level of investor trust in the company's management.

CONCLUSION

The results of this study concluded that several independent variables had significant but different directions, indicating a relationship between firm value and corporate value. First, carbon trading showed a significant negative relationship with firm value. This result contradicts the expectation that environmentally friendly activities would improve investor perceptions. This is likely due to the presence of regulations, a lack of investor understanding of the long-term benefits of carbon trading, and its short-term costs.

Therefore, initiatives that are not widely understood can actually create a perception of risk in the market. Second, firm size was shown to have a positive and significant effect on firm value. Larger firms have advantages in economies of scale, reputation, and access to funding, all of which serve as strong signals to investors. Profitability had a significant positive relationship with firm value. Profitability reflects operational efficiency and clear growth prospects, thus attracting investor interest and increasing company valuation. Conversely, leverage did not show a significant effect on firm value.

The practical implications of these findings emphasize the importance of companies communicating carbon trading activities more transparently and effectively to the market to avoid misperceptions. However, this study is limited to consumer goods manufacturing companies listed on the IDX in 2022, which may reduce the generalizability of the results across different sectors or time periods. In addition, the study only used four independent variables, while firm value may also be influenced by other factors such as innovation, governance, or macroeconomic conditions. Future research is recommended to explore additional variables or use moderating and mediating factors, such as investor sentiment, environmental disclosure quality, or regulatory support, to better understand the dynamics between environmental practices and firm valuation. Longitudinal studies and cross-industry comparisons could also offer deeper insights into the evolving perception of sustainability in business valuation.

REFERENCES

[1] Abdulrahman, N. (2018). The role of employee motivation factor on organizational performance: A case study of education sectors in Kurdistan. *The International Journal of Accounting and Business Society*, *26*(1), 1-16.

[2] Apriliani, L., Kadir, K., & Hifni, S. (2024). Sustainability accounting: nilai perusahaan dan carbon emission disclosure. *Gorontalo Accounting Journal*, *7*(1), 91-102.

[3] Ariyanti, S., Abadi, S., & Taufiqurrahman, T. (2024). Implementation of carbon trading in Indonesia after the issuance of POJK Number 14 of 2023 concerning carbon exchange. *Law and Humanity*,*2* (1), 18-39.

[4] Aulia, T. F., Hidayat, N., & Maryoan, M. S. (2025). Improving employee performance through motivation (study case of educational institutions in Jepara City). *Jurnal Transformasi Ekonomi*, *1*(1), 1-12.

[5] Bon, S. F., & Hartoko, S. (2022). The effect of dividend policy, investment decision, leverage, profitability, and firm size on firm value. *European Journal of Business and Management Research*, *7*(3), 7-13.

[6] Brata, I. O., & Soge, M. S.. (2020). The effect of profitability, levrage, and company size on company value in manufacturing companies listed on the IDX. *Journal of Business and Economic Accounting*, *6*(2), 1767–1788.

[7] Brigham, E. F., & Houston, J. F. (2019). Fundamentals of financial management. *IJournal of Finance*, *34*(5), 34-51.

[8] Budisaptorini, A. T., Chandrarin, G., & Assih, P. (2019). The effect of company size on company profitability and company value: The case of manufacturing companies. *International Journal of Economics and Business Administration*, *7*(2), 251-256.

[9] Cahyaningtyas, F. (2022). The moderating role of corporate social responsibility on firm value: a theoretical perspective. *Mdp Student Conference (Msc)*, *202*(2), 153–159.

[10] Claudia, T. N. ; B. R. H. (2023). The effect of profitability, company size, leverage on carbon emission disclosure. *Pleiades: Literature in Context*, *43*(2), 58–58.

[11] Dewi, P. P. R. A., & Budiadnyani, N. P. (2024). Carbon emission disclosure, ukuran perusahaan, profitabilitas dan leverage: nilai perusahaan. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, *8*(1), 2030-2044.

[12] Djemma, S. A., Muktamar, A., Bakti, A., & Fajri, N. (2023). The influence of work motivation and work discipline on employee performance at the Wajo Regency land office. *International Journal of Management Research and Economics*, *1*(4), 01-14.

[13] Gunarto, M. (2019). *Statistical analysis with Structural Equation Models (SEM): theoretical and practical*. Jakarta: Alfabeta.

[14] Hapsari, C. A., & Prasetyo, A. B. (2020). Analyze factors that affect carbon emission disclosure (Case Study in non-financial firms listed on Indonesia stock exchange in 2014-2016). *Accounting Analysis Journal*, *9*(2), 74-80.

[15] Hapsoro, D., & Falih, Z. N. (2020). The effect of firm size, profitability, and liquidity on the firm value moderated by carbon emission disclosure. *Journal of Accounting and Investment*, *21*(2), 240-257.

[16] Hardianti, T., & Mulyani, S. D. (2023). The effect of carbon emission disclosure and company size on firm value with environmental performance as a moderating variable. *Scientific Journal of Wahana Pendidikan* (9), 275-291.

[17] Hardiyansah, M., Agustini, A. T., & Purnamawati, I. (2021). The effect of carbon emission disclosure on firm value: environmental performance and industrial type. *The Journal of Asian Finance, Economics and Business*, *8*(1), 123-133.

[18] Hartoyo, A., & Abdullah, A. R. (2023). The effect of financial performance and company size on company value: a review of literature studies. *The ES Accounting and Finance*, *2*(01), 35-40.

[19] Kholmi, M., Karsono, A. D. S., & Syam, D. (2020). Environmental performance, company size, profitability, and carbon emission disclosure. *Jurnal Reviu Akuntansi Dan Keuangan*, *10*(2), 349-358.

[20] Lestari, I. S., & Lestari, D. I. (2024). The effect of profitability and leverage on carbon emissions disclosure and its impact on stock price. *JAK (Accounting Journal) Scientific Review of Accounting*,*11* (2), 209-225.

[21] Mulya, F. A., & Rohman, A. (2020). Analisis pengaruh tipe industri, ukuran perusahaan, profitabilitas, leverage dan kualitas tata kelola perusahaan terhadap carbon emission disclosure (studi empiris pada perusahaan non keuangan yang mengeluarkan sustainability report dan terdaftar di BEI tahun 2015-2017). *Diponegoro Journal of Accounting*, *9*(4), 45-59.

[22] Neliana, T., & Destiana, R. (2021). Determinants of firm value with financial performance as an intervening variable. *Journal of Sharia Accounting*, *5*(2), 173–190.

[23] Nurwulandari, A. (2021). Effect of liquidity, profitability, firm size on firm value with capital structure as intervening variable. *Atestasi: Jurnal Ilmiah Akuntansi*, *4*(2), 257-271.

[24] Octaviany, A., Hidayat, S., & Miftahudin. (2019). The effect of company size and leverage on firm value with profitability as an intervening variable. *Journal of Management Inspiration Research and Entrepreneurship*,*3* (1), 30-36.

[25] Pratama, H., Rivai, H. A., & Lukito, H. (2023). The effect of competence and work discipline on employee performance with work motivation as a mediating variable. *Enrichment: Journal of Management*, *12*(6), 4960-4968.

[26] Prayogi, M. A., & Trya, A. (2024). How job satisfaction in mediation the effect of work motivation on employee performance. *Management*, *2*(1), 63-74.

[27] Prihatiningtyas, W., & Fitriana, Z. M. (2023). Justice perspective in carbon trading policy in indonesia as an effort to address climate change. *Journal of Legal Science*, *7*(2), 24-41.

[28] Putlely, Z., Lesnussa, Y. A., Wattimena, A. Z., & Matdoan, M. Y. (2021). Structural Equation Modeling (SEM) to measure the effect of service, price, and safety on the satisfaction level of public transportation service users during the Covid-19 Pandemic in Ambon City. *Indonesian Journal of Applied Statistics*,*4* (1), 1-13.

[29] Ramadhan, P., Rani, P., & Wahyuni, E. S. (2023). Disclosure of carbon emissions, Covid-19, green innovation, financial performance, and firm value. *Journal of Accounting and Finance*, *25*(1), 1–16.

[30] Rangga, E. N. S., & Kristanto, S. B. (2023). Disclosure of carbon emissions, csr costs, profitability, and debt policy on firm value. *Journal of Accounting and Financial Research*,*19* (1), 67-81.

[31] Sarvasti, L. D., & Widoretno, A. A. (2024). Do green accounting and carbon emission disclosure affect stock return?. *Akurasi: Jurnal Studi Akuntansi dan Keuangan*, *7*(1), 155-172.

[32] Setyawan, S., Juanda, A., & Inata, L. C. (2025). Do carbon emission reporting and carbon trading policies improve corporate business sustainability?. *Accounting Analysis Journal*, *14*(1), 12-20.

[33] Siahaan, U. M., Ragil, S. S., & Solimon, H. (2014). The influence of company size and capital structure towards liquidity, corporate performance and firm value, for large and small group companies. *European Journal of Business and Management*, *6*(18), 148-156.

[34] Suartına, İ. W., & Sadıartha, A. A. N. G. (2019). The effect of work motivation on the employee performance with organizational commitments as moderation variables at Pt. Asuransi Jiwasraya, Denpasar. *Journal of Life Economics*, *6*(3), 249-264.

[35] Suma, D., & Siregar, B. A. (2023). The influence of leadership and work ability on work motivation, and their implications on the performance of education department employees in South Sumatra Province. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *7*(2), 43-57.

[36] Surajiyo, S., Nasruddin, N., Fanira, N., & Paleni, H. (2021). The use of Structural Equation Modeling (SEM) methods on the effect of work ability and motivation on employee performance and its impact on the quality of educational administration services at the faculty of economics and business, Bina Insan University. *JMBI UNSRAT (Scientific Journal of Business Management and Innovation of Sam Ratulangi University).*,*8* (3), 715-734.

[37] Sutianingsih, S., & Handayani, T. K. W. (2021). Effect of work motivation, work discipline and perception of organizational support on employee performance in Manyaran Sub-District Office. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *5*(4), 52-67.

[38] Syahdanti, A. D., & Marietza, F. (2024). The influence of profitability, company size, media exposure, and leverage on carbon emissions disclosure. *EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi dan Bisnis*, *12*(1), 1095-1108.

[39] Tana, H. F. P., & Diana, B. (2021). The effect of industry type, debt level and profitability on carbon emissions disclosure. *Scientific Journal of Accounting Students*, *10*(2), 63-77.

[40] Widianto, I., & Sari, D. P. (2020). The effect of environmental performance, leverage and company size towards carbon emission disclosure on rated proper company in 2015-2018: English. *Journal of Accounting, Entrepreneurship and Financial Technology (JAEF)*, *1*(2), 97-118.

[41] Zhao, Y., Wang, C., Sun, Y., & Liu, X. (2018). Factors influencing companies' willingness to pay for carbon emissions: Emission trading schemes in China. *Energy Economics*, *75*, 357-367.