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The effect of CSR and environmental performance on financial performance with green innovation as a mediating variable (empirical study of manufacturing companies listed on the IDX 2021–2024)

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Abstract
This study aims to examine the effect of corporate social responsibility and environmental performance on financial performance, with green innovation as a mediating variable. The independent variables in this study are corporate social responsibility and environmental performance, while financial performance is measured using Return on Assets serves as the dependent variable and green innovation as the mediating variable.
The population of this study consists of manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period. The sampling technique used was purposive sampling, resulting in 160 research samples. The analytical method used in this study was panel data regression analysis processed using EViews 12. This study also used the Sobel test to examine the role of green innovation as a mediating variable.
The findings reveal that corporate social responsibility and environmental performance have no significant effect on financial performance, while green innovation has a significant effect on financial performance. The Sobel test results indicate that green innovation is unable to mediate the effect of corporate social responsibility and environmental performance on financial performance.

Keywords: Corporate social responsibility, environmental performance, financial performance, green innovation

Introduction

The increasingly dynamic and competitive business environment encourages companies not only to focus on achieving financial profits but also to pay attention to the environmental and social impacts of their operational activities. Financial performance is one of the most widely used indicators to measure a company's success. Companies that are able to manage their operational activities responsibly, particularly in environmental aspects, have the potential to gain a positive image among stakeholders, which in turn can support improvements in financial performance (Kurniawan *et al*., 2023) [36]. However, the expansion of operational activities may also increase energy consumption, raw material usage, production costs, and the risk of environmental pollution. This condition can be observed in PT Mayora Indah Tbk, which recorded an increase in revenue from IDR 30.669 trillion in 2022 to IDR 31.485 trillion in 2023, with a Return on Assets of 13.38%. Although this reflects strong financial performance, the increase in operational activities may also generate greater environmental impacts if not managed effectively.

As a commitment to sustainability, companies are required to implement Corporate Social Responsibility as stipulated in Law Number 40 of 2007. The government also imposes sanctions on companies that fail to fulfill their environmental obligations, as regulated in Law Number 6 of 2023[1]. Nevertheless, several companies continue to violate these regulations. One example is PT Toba Pulp Lestari Tbk, which has attracted public attention due to allegations of ecosystem degradation and social conflicts in the Lake Toba area. Furthermore, increasing carbon emissions resulting from the use of fossil fuels have accelerated climate change and heightened the risk of natural disasters (Mikhaylov *et al*., 2020) [22]. These phenomena indicate that companies need to adopt more environmentally and socially responsible business practices.

In addition to CSR, environmental performance is another important factor that may contribute to the improvement of a company's financial performance. Environmental performance reflects a company's ability to manage the environmental impacts of its operations, including emissions, waste, and resource utilization. In Indonesia, corporate environmental performance is evaluated through the PROPER. PROPER data for the 2021–2024[2, 19] period indicate an increase in the number of companies receiving gold and green ratings. However, during the same period, the number of companies receiving Red and Black ratings also increased. This condition suggests that the level of compliance and awareness regarding environmental management remains uneven among companies.

To support sustainability while enhancing competitiveness, the implementation of green innovation is essential. According to Chouaibi *et al*., (2022) [5], green innovation refers to a strategy focused on developing environmentally friendly products, processes, and technologies that can contribute to improved financial performance. Moreover, the implementation of CSR supported by green innovation has the potential to strengthen stakeholder trust and enhance corporate reputation (Freeman *et al*., 2004) [8].

However, previous studies have produced inconsistent findings. Several studies have found that CSR positively affects financial performance, both directly and indirectly through green innovation (Aftab *et al*., 2023; Sarfraz *et al*., 2023) [1, 31]. In contrast, Kraus *et al*. (2020) [16] found that the effect of CSR on financial performance is more effectively realized through green innovation. Similar inconsistencies have been identified in the relationship between environmental performance and financial performance.

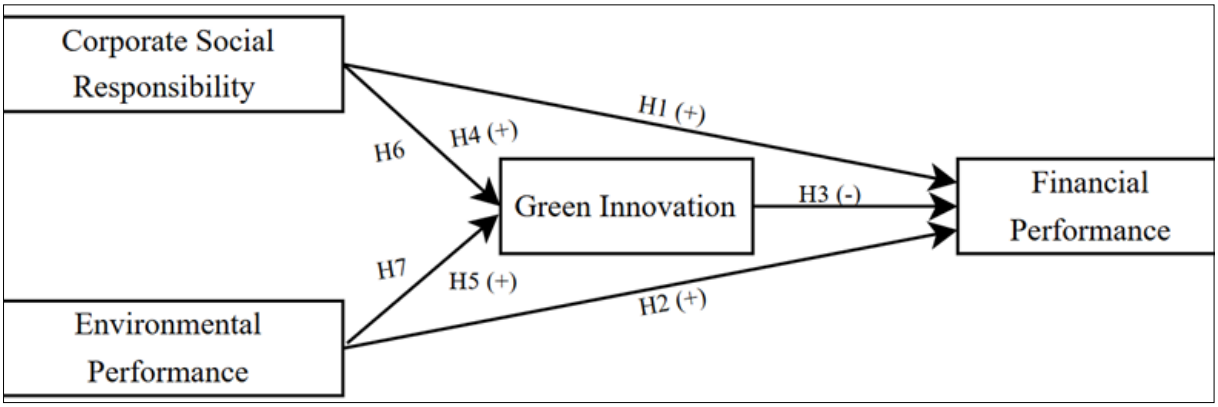
Marcelina *et al*., (2023) [20] reported a positive effect, whereas Meiyana & Aisyah, (2019) [21] found that environmental performance has no significant effect on financial performance. Furthermore, the use of green innovation as a mediating variable remains relatively limited, particularly in manufacturing companies, which are characterized by a high risk of environmental pollution.Based on these empirical phenomena and the inconsistencies in previous research findings, a research gap remains regarding the effect of CSR and environmental performance on financial performance, as well as the mediating role of green innovation. Therefore, this study aims to provide empirical evidence on the effect of Corporate Social Responsibility and environmental performance on financial performance, with green innovation serving as a mediating variable, in manufacturing companies listed on the Indonesia Stock Exchange.

Theoretical Framework and Hypothesis Formulation

Stakeholder Theory states that companies have a responsibility to create value for all parties affected by their activities, not solely for shareholders (Freeman, 1984). Stakeholder support is a crucial factor influencing corporate sustainability; therefore, management must consider economic, social, and environmental aspects in every decision-making process (Freeman *et al*., 2004) [8]. In the context of this study, the implementation of Corporate Social Responsibility (CSR) and the improvement of environmental performance represent efforts to fulfill stakeholder expectations, which can enhance trust, strengthen corporate reputation, and support improvements in financial performance (Ardani & Mahyuni, 2020; Ramadhan & Handayani, 2018) [3, 27].

Legitimacy Theory explains that a company's survival depends on its ability to operate in accordance with societal values, norms, and expectations (Dowling & Pfeffer, 1975) [7]. To obtain and maintain legitimacy, companies need to demonstrate their commitment to social and environmental responsibilities through CSR implementation, improved environmental performance, and the adoption of green innovation (Kholmi & Nafiza, 2022). Strong legitimacy enhances stakeholder trust, strengthens corporate reputation, and ultimately contributes positively to financial performance (Chouaibi *et al*., 2022) [5].

The Natural Resource-Based View Theory emphasizes that a company's competitive advantage can be achieved through its ability to effectively manage natural resources and implement environmentally sustainable strategies (Hart, 1995) [10]. This theory considers environmental performance and green innovation as strategic capabilities that can create long-term value for firms (Sarfraz *et al*., 2023) [31]. Through pollution prevention, environmentally friendly product stewardship, and sustainable development initiatives, companies can improve operational efficiency while simultaneously enhancing financial performance (Hart & Dowell, 2011) [11].



Theoretical Framework

Hypothesis Formulation

The Effect of Corporate Social Responsibility on Financial Performance

Corporate Social Responsibility is a form of a company's commitment to managing the social and environmental impacts arising from its operational activities. Based on stakeholder theory, the implementation of CSR can increase stakeholder trust, create a positive image, and gain support from stakeholders, thereby helping companies build better relationships with various interested parties. These conditions have the potential to improve operational efficiency and support the enhancement of corporate financial performance (Saleh *et al*., 2008) [29]. Nawawi & Murtanto, (2025) [24] found that CSR can strengthen corporate reputation and customer loyalty, while Aftab *et al*., (2023) [1] and Liu *et al*., (2024) [19] found that effective CSR implementation can improve a company's competitive advantage and financial performance.

H1: Corporate Social Responsibility has a positive effect on financial performance.

The Effect of Environmental Performance on Financial Performance

Environmental performance reflects a company's ability to manage the environmental impacts of its operations through the implementation of practices that are consistent with sustainability principles. Based on Legitimacy Theory, companies with good environmental performance will gain support and legitimacy from society, thereby strengthening their operational sustainability (Ani, 2021) [2]. In addition, optimal environmental performance can enhance corporate reputation and generate positive responses from stakeholders, which ultimately lead to improved financial performance (Supadi & Sudana, 2018) [35]. The findings of Suaidah & Putri, (2020) [34] also indicate that companies with good environmental performance tend to achieve higher financial performance.

H2: Environmental performance has a positive effect on financial performance.

The Effect of Green Innovation on Financial Performance

Green innovation is an important strategy for developing sustainable processes, products, and technologies to reduce pollution, optimize energy use, and utilize resources more efficiently (Nawawi & Murtanto, 2025) [24]. However, its implementation requires substantial investment in environmentally friendly technologies, innovation development, and operational adjustments, which may increase corporate costs and negatively affect financial performance in the short term (Intari & Khusnah, 2023; Przychodzen *et al*., 2019) [13, 26]. According to the NRBV theory, green innovation is a source of competitive advantage that creates added value for companies, although its economic benefits cannot be realized immediately because they require time to achieve optimal effectiveness (Kahfi & Surianti, 2025) [14]. Therefore, this study proposes the hypothesis that green innovation has a significant negative effect on financial performance.

H3: Green Innovation has a negative effect on financial performance.

The Effect of Corporate Social Responsibility on Green Innovation

The implementation of CSR encourages companies to develop green innovation as a form of environmental responsibility and fulfillment of stakeholder expectations. In addition, CSR can help companies obtain the resources and support needed to develop environmentally friendly innovations (Novitasari & Tarigan, 2022; Yuan & Cao, 2022) [25, 37]. In line with the NRBV, CSR and green innovation are complementary strategies that enhance corporate sustainability and competitiveness. Studies by (Bonsu *et al*., 2024; Kraus *et al*., 2020; Leniwati *et al*., 2023) [4, 16, 18] provide evidence that CSR plays a role in encouraging the development of green innovation.

H4: Corporate Social Responsibility has a positive effect on Green Innovation.

The Effect of Environmental Performance on Green Innovation

Good environmental performance demonstrates a company's commitment to managing environmental impacts while complying with applicable regulations. Based on NRBV Theory, companies with optimal environmental performance tend to develop internal capabilities that support the creation of green innovation as a source of competitive advantage. These efforts are undertaken to improve operational efficiency, reduce environmental impacts, and strengthen corporate sustainability (Leniwati *et al*., 2023) [18].

H5: Environmental performance has a positive effect on Green Innovation.

The Effect of Corporate Social Responsibility on Financial Performance through Green Innovation

Green innovation plays an important role as a mechanism linking Corporate Social Responsibility (CSR) and financial performance by enabling companies to develop more efficient and environmentally friendly products and processes, thereby enhancing competitiveness and generating economic benefits (Bonsu *et al*., 2024; Haryanto *et al*., 2025) [4, 12] . Consistent with Chouaibi *et al*., (2022) [5], green innovation can mediate the relationship between CSR and financial performance, while reducing resource and energy consumption contributes to operational efficiency and profitability (Dewi & Zagladi, 2025; Leniwati *et al*., 2023) [6, 18]. This perspective is supported by the NRBV, which emphasizes that environmental capabilities such as green innovation can create competitive advantages and improve financial performance through cost efficiency, enhanced reputation, and increased investor confidence (Hart & Dowell, 2011) [11].

H6: Green Innovation mediates the effect of Corporate Social Responsibility on financial performance.

The Effect of Environmental Performance on Financial Performance through Green Innovation

Good environmental performance can encourage companies to develop green innovation in order to improve resource-use efficiency, reduce operational costs, and strengthen corporate competitiveness. Based on NRBV Theory, green innovation is a strategic capability that can transform environmental commitment into economic benefits and long-term competitive advantage. Studies by Leniwati *et al*., 2023; Shuwaikh *et al*., 2023[18, 33] indicate that green innovation can serve as a mechanism linking environmental performance to improved corporate financial performance.

H7: Green Innovation mediates the effect of environmental performance on financial performance.

Research Methodology

Population and Sample

This study focuses on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024[2, 19] period. The manufacturing sector was selected because it is characterized by a high level of operational activity and has a significant impact on social and environmental aspects, making it highly relevant to the variables of Corporate Social Responsibility (CSR), environmental performance, green innovation, and financial performance. In addition, this sector provides relatively complete and consistent data through annual reports and sustainability reports. The sample was selected using the purposive sampling method based on the following criteria:

1. Manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024[2, 19] period.
2. Companies that disclose CSR activities and information related to green innovation in their annual reports or sustainability reports during the observation period.
3. Companies that have PROPER rating data available to measure environmental performance.
4. Companies that present their financial statements in Indonesian Rupiah (IDR).

Variables and Their Measurement

This study employs dependent, independent, and mediating variables. The dependent variable is financial performance, which is proxied by return on assets. The independent variables consist of Corporate Social Responsibility and

environmental performance. Meanwhile, green innovation is used as a mediating variable to explain the mechanism through which CSR and environmental performance influence financial performance. The following are the variables used in this study along with their respective measurement methods.

Table 1: Measurement of Variables

Variables		Defenisi	Measurements
Dependent Variable (Y)	Financial Performance (ROA)	A measure that indicates a company's ability to generate profits from its operational activities.	Net Income / Total Assets × 100%
Independent Variable (X)	Corporate Social Responsibility (CSR)	The obligations incurred by a company as a result of its operational activities.	Number of CSR Indicators Disclosed / Total CSR Indicators
	Environmental Performance (KL)	A company's capability to comply with sound environmental standards.	PROPER Score (Gold = 5, Green = 4, Blue = 3, Red = 2, Black = 1)
Mediating Variable (M)	Green Innovation (GI)	The development of production processes to minimize environmental damage through energy efficiency, pollution reduction, and recycling in order to support sustainable products.	Number of Green Innovation Indicators Disclosed Total Green Innovation Indicators

Research Model

The data in this study were processed using EViews 12 and analyzed through panel data regression analysis. This method was employed to examine the effect of Corporate Social Responsibility and environmental performance on financial performance, with green innovation acting as a mediating variable in manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024[2, 19] period. The data analysis was conducted through several stages, including descriptive statistics, panel data regression model selection, panel data regression analysis, hypothesis testing, and mediation testing using the Sobel Test.

Descriptive statistics were used to provide an overview of the characteristics of the research data by presenting the mean, maximum, minimum, and standard deviation values. Furthermore, three panel data regression models were considered, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The most appropriate model was selected through the Chow test, Hausman test, and Lagrange Multiplier test. Hypothesis testing was conducted using panel data regression analysis through the F-test, t-test, and coefficient of determination (R^2). The F-test was used to assess the feasibility of the regression model, the t-test was employed to examine the partial effects of the independent variables on the dependent variable, and the coefficient of determination (R^2) was used to measure the ability of the independent variables to explain the dependent variable. In addition, the Sobel test was applied to examine the mediating role of green innovation in the relationship between CSR, environmental performance, and financial performance.

Results of Research and Discussion

Research Sample Description

This study uses secondary data obtained from companies' annual reports, sustainability reports, and PROPER data. The population consists of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024[2, 19] period. The research sample was selected using a purposive sampling method based on predetermined criteria. The sample selection process was conducted through the following stages:

Table 2: Sample Selection

No.	Sample Criteria	Quantity
1.	Manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2021–2024[2, 19].	344
2.	Companies newly listed during 2021[2]-2024.	(77)
3.	Companies delisted during 2021[2]- 2024.	(1)
4.	Companies that did not publish annual reports and sustainability reports during the 2021–2024[2, 19].	(15)
5.	Companies with no PROPER information available during 2021[2]–2024.	(201)
6.	Companies whose financial statements were not presented in Indonesian Rupiah (IDR).	(10)
Total Sample Companies		40
Total Research Observations (40 × 4)		160

Descriptive Statistics

Based on the descriptive statistics results, financial performance has a mean value of 0.072162 and a standard deviation of 0.083077. These results indicate that the financial performance of the sample companies is relatively stable, with low variability across firms during the observation period.

The Corporate Social Responsibility variable has a mean value of 0.431113 and a standard deviation of 0.098960. This finding suggests that the level of CSR disclosure among the sample companies is moderate, with relatively small differences in disclosure practices across firms. Meanwhile, environmental performance records a mean value of 3.168750 and a standard deviation of 0.551976, indicating a moderate degree of variation in environmental performance among the sampled companies.

Furthermore, green innovation has a mean value of 0.825000 and a standard deviation of 0.142418. These values indicate that the adoption of green innovation among the sample companies is relatively high and remains fairly consistent across firms. Overall, the descriptive statistics suggest variations in corporate characteristics regarding CSR disclosure, environmental performance, green innovation practices, and financial performance achievement during the 2021–2024[2, 19] study period.

Table 3: Descriptive Statistics

	N	Red	Max	Min	Std. Deviation
ROA	160	0,072162	0,309881	-0,203234	0,083077
CSR	160	0,431113	0,681319	0,241758	0,098960
KL	160	3,168750	5,000000	2,000000	0,551976
GI	160	0,825000	1,000000	0,500000	0,142418

Source: Output Eviews 12, 2026

Panel Data Estimation Model Determination

The selection of the panel data regression model was conducted to determine the most appropriate model among the CEM, FEM, and REM using the Chow test, Hausman test, and Lagrange Multiplier test. For Model 1, which examines the effect of Corporate Social Responsibility, environmental performance, and green innovation on financial performance, the Chow test produced a probability value of 0.0000, which is lower than the significance level of 0.05. This result indicates that the FEM is more appropriate than the CEM. Furthermore, the Hausman test yielded a probability value of 0.0014, which is below 0.05, confirming that the FEM is the most suitable model for analyzing the effects of CSR, environmental performance, and green innovation on financial performance.

Meanwhile, for Model 2, which investigates the effects of CSR and environmental performance on green innovation, the Chow test also produced a probability value of 0.0000, indicating that the panel data model is preferable to the CEM. The Hausman test resulted in a probability value of 0.9311, which exceeds 0.05, suggesting that the REM is more appropriate than the FEM. This finding was further supported by the Lagrange Multiplier test, which generated a probability value of 0.0000, indicating that the REM is preferable to the CEM. Therefore, the REM was selected as the best model for Model 2. Accordingly, this study employs the FEM for Model 1 and the REM for Model 2 as the basis for hypothesis testing.

Multicollinearity Test

The multicollinearity test was conducted to determine whether there is a high correlation among the independent variables in the research model. The test results indicate that all correlation coefficient values among the independent variables in both Model 1 and Model 2 are below the threshold of 0.80. Therefore, it can be concluded that neither research model suffers from multicollinearity problems.

Heteroscedasticity Test

The heteroscedasticity test results indicate that all independent variables in this study have probability values above the significance level of 0.05. Both Model 1 and Model 2 also exhibit probability values greater than 0.05. Based on these results, it can be concluded that the regression models are free from heteroscedasticity problems. These findings indicate that the residual variance is constant (homoscedasticity), suggesting that the regression models used are appropriate and reliable for hypothesis testing.

Hypothesis Testing

Based on the results of the panel data regression model selection, the best models employed in this study are the FEM for Model 1 and the REM for Model 2. The regression equations of the study are formulated as follows:

$$ROA = 0.2267033952 + 0.06577618478*CSR - 0.02090563245*KL - 0.141397917547*GI + [CX=F] \quad \text{(Model 1)}$$

$$GI = 0.70192192606 + 0.151706355*CSR + 0.0182013560966*KL + [CX=R] \quad \text{(Model 2)}$$

Coefficient of Determination (R^2) Test

The Adjusted R-Squared value for Model 1 is 0.799895, indicating that CSR, environmental performance, and green innovation collectively explain 79.99% of the variation in financial performance, while the remaining 20.01% is explained by other factors outside the model. Meanwhile, the Adjusted R-Squared value for Model 2 is 0.010046, indicating that CSR and environmental performance explain 1.00% of the variation in green innovation, whereas the remaining 99.00% is influenced by other factors not included in the research model.

F-Test (Simultaneous Significance Test)

The simultaneous test results for Model 1 show an F-statistic value of 16.13297 with a Prob (F-statistic) value of 0.000000 < 0.05. These results indicate that the regression model meets the model feasibility criteria. Furthermore, CSR, environmental performance, and green innovation simultaneously have a significant effect on financial performance. Meanwhile, for Model 2, the F-statistic value is 1.806748 with a Prob (F-statistic) value of 0.167584 > 0.05. These results indicate that the regression model is not statistically significant when tested simultaneously. Therefore, Corporate Social Responsibility (CSR) and environmental performance jointly do not have a significant effect on green innovation.

t-Test (Partial Significance Test)

The partial test results for Model 1 indicate that Corporate Social Responsibility does not have a significant effect on financial performance, with a probability value of 0.1575 > 0.05. In addition, environmental performance also does not have a significant effect on financial performance, with a probability value of 0.1339 > 0.05. Meanwhile, green innovation has a significant negative effect on financial performance, with a probability value of 0.0015 < 0.05. For Model 2, the CSR variable does not have a significant effect on green innovation, with a probability value of 0.0994 > 0.05. Furthermore, environmental performance also does not have a significant effect on green innovation, with a probability value of 0.4431 > 0.05.

Sobel Test

The Sobel test results indicate that green innovation is unable to mediate the effect of Corporate Social Responsibility on financial performance, as evidenced by a calculated t-value of 1.50, which is lower than the t-table value of 1.98. In addition, green innovation is also unable to mediate the effect of environmental performance on

financial performance, with a calculated t-value of -0.96, which is lower than the t-table value of 1.98. Therefore, green innovation does not serve as a mediating variable in the relationship between CSR and environmental performance on financial performance.

Table 4: Test Result

	Model 1			Model 2		
Model Determination Test Results						
Chow Test	Prob. Chi-Square		0,0000	Prob. Chi-Square		0,0000
Hausman Test	Prob.		0,0014	Prob.		0,9311
Lagrange Multiplier Test	Prob.		0,0000	Prob.		0,0000
SELECTED MODELS	FEM			REM		
Hypothesis Test Results						
Coefficient Determination Test	Adjusted R-Squared		0,799895	Adjusted R-Squared		0,010046
Test F	Prob.		0,000000	Prob.		0,167584
T test	CSR	Prob.	0,1575	CSR	Prob.	0,0994
	KL	Prob.	0,1339	KL	Prob.	0,4431
	GI	Prob.	0,0015			
Sobel Test	t-statistic		1,50	t-statistic		-0,96
	t-table		1,98	t-table		1,98
	Insignificant			Insignificant		

Source: Output Eviews 12, 2026

Interpretation of Results

The Effect of Corporate Social Responsibility on Financial Performance

Referring to the results of the hypothesis testing presented in Table 4.10, the CSR variable has a significance value of 0.1575 > 0.05 with a positive coefficient of 0.065776 (H1 is rejected). These findings indicate that CSR disclosure has not been able to exert a significant effect on a company's financial performance. This condition may occur because the amount of resources allocated to CSR activities does not necessarily guarantee the effectiveness of their implementation or the quality of CSR disclosure carried out by the company. As a result, the expected economic benefits, such as improved reputation, increased investor confidence, and higher sales, may not be realized optimally. These findings are consistent with the studies conducted by Nabila & Sutjahyani, (2023) and Sahid & Henny, (2023) [28], which found that CSR does not have a significant effect on financial performance because its implementation has not been able to generate tangible economic benefits for the company.

The Effect of Environmental Performance on Financial Performance

The hypothesis testing results indicate that the environmental performance variable has a significance value of 0.1339 > 0.05 with a negative regression coefficient of -0.020906 (H2 is rejected). These findings suggest that environmental performance has not been able to exert a significant effect on a company's financial performance. This condition may be attributed to the limited attention paid by investors and the public to environmental performance information, particularly PROPER ratings, in economic decision-making processes. As a result, strong environmental performance achievements have not been able to enhance the company's image or generate direct financial benefits. These findings are consistent with the study conducted by Setyaningsih & Asyik, (2016) [32], which found that environmental performance does not provide direct economic benefits and therefore does not have a significant effect on financial performance.

The Effect of Green Innovation on Financial Performance

The hypothesis testing results indicate that the green innovation variable has a significance value of 0.0015 < 0.05 with a negative regression coefficient of -0.141398 (H3 is accepted). These findings demonstrate that green innovation has a significant negative effect on a company's financial performance. This condition suggests that the implementation of green innovation still requires substantial investment, including expenditures on research and development, the acquisition of environmentally friendly technologies, and adjustments to the company's operational processes. These considerable costs imply that the financial benefits generated have not yet been able to offset the expenses incurred by the company in the short term. These findings are consistent with the studies conducted by Kahfi & Surianti, (2025) [14] and Przychodzen *et al*., (2019) [26], which found that the implementation of green innovation can increase a company's financial burden and consequently have a negative impact on financial performance.

The Effect of Corporate Social Responsibility on Green Innovation

Based on the hypothesis testing results presented in Table 4.19, the CSR variable has a significance value of 0.0994 > 0.05 with a positive regression coefficient of 0.151706 (H4 is rejected). These findings indicate that CSR has not been able to significantly promote green innovation. This condition may occur because CSR implementation in companies is still primarily focused on fulfilling social responsibilities and enhancing corporate image rather than serving as a strategy for developing environmentally friendly innovations. In addition, the substantial allocation of CSR funds may reduce the resources available to support the development of green innovation. These findings are consistent with the study conducted by Wan *et al*., (2023) [36], which found that CSR is more oriented toward achieving social legitimacy than fostering environmental innovation.

The Effect of Environmental Performance on Green Innovation

The hypothesis testing results indicate that the environmental performance variable has a significance value of 0.4431 > 0.05 with a positive regression coefficient of 0.018201 **(H5 is rejected).** These findings suggest that strong environmental performance has not been able to significantly promote green innovation. This condition may occur because the development of green innovation requires substantial investment, involves a high level of risk, and entails a relatively long implementation period. As a result, companies tend to prioritize operational efficiency and business sustainability rather than comprehensively developing environmentally friendly innovations. These findings are consistent with the studies conducted by Zhang *et al*., (2022) [38] and González-Blanco *et al*., (2018) [9].

The Effect of Corporate Social Responsibility on Financial Performance through Green Innovation

Based on the Sobel test results, the calculated t-value is -1.50, which is lower than the t-table value of 1.98 **(H6 is rejected).** These findings indicate that green innovation is unable to mediate the effect of CSR on a company's financial performance. This condition may be attributed to the high costs associated with implementing green innovation, resulting in economic benefits that have not yet been sufficient to improve financial performance optimally. Furthermore, the benefits derived from green innovation tend to be realized over the long term, limiting its ability to strengthen the relationship between CSR and financial performance. These findings are consistent with the study conducted by Saputra *et al.,* (2024) [30], which found that green innovation is unable to mediate the relationship between CSR and financial performance.

The Effect of Environmental Performance on Financial Performance through Green Innovation

Based on the Sobel test results, the calculated t-value is -0.96, which is lower than the t-table value of 1.98 **(H7 is rejected).** These findings indicate that green innovation is unable to mediate the effect of environmental performance on a company's financial performance. This condition may occur because the implementation of green innovation still requires substantial investment costs, while the resulting financial benefits tend to be realized only in the long term. In addition, companies often adopt green innovation primarily as a means of complying with environmental regulations rather than as a strategy for enhancing financial performance. These findings are consistent with the study conducted by Intari & Khusnah, (2023) [13], which found that green innovation is unable to significantly mediate the relationship between environmental performance and financial performance.

Conclusion, Limitations, and Recommendations

Based on the results of the analysis and hypothesis testing, this study demonstrates that Corporate Social Responsibility (CSR) and environmental performance do not have a significant effect on financial performance. These findings indicate that the implementation of CSR and the achievement of environmental performance have not been able to directly improve a company's financial performance. On the other hand, green innovation has a significant negative effect on financial performance, suggesting that the implementation of environmentally friendly innovations tends to reduce financial performance in the short term due to the relatively high investment and implementation costs involved. Furthermore, CSR and environmental performance do not have a significant effect on green innovation. The results also reveal that green innovation is unable to mediate the effect of CSR and environmental performance on financial performance. These findings suggest that the economic benefits of implementing green innovation cannot be realized immediately and require time before generating optimal financial outcomes. Overall, the results indicate that the relationship between CSR, environmental performance, and financial performance cannot be explained through the mechanism of green innovation in manufacturing companies included in the sample during the 2021–2024[2, 19] period.

In interpreting these findings, several limitations should be considered. This study focuses only on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024[2, 19] period, which may limit the generalizability of the results to other industrial sectors. In addition, several companies did not provide complete annual reports and sustainability reports throughout the observation period, resulting in a limited number of samples that met the research criteria. The measurement of CSR and green innovation variables was based solely on information disclosed in the companies' annual reports and sustainability reports, leaving room for subjectivity in the reporting of such information. Moreover, the Adjusted R-Squared value of the model explaining green innovation is 0.010046, or 1.00%, indicating that the research variables explain only 1.00% of the variation in green innovation, while the remaining 99.00% is influenced by other factors outside the research model.

Based on these findings and limitations, future research is encouraged to incorporate additional variables that may influence financial performance, such as environmental cost, green accounting, and relevant control variables including firm size, in order to provide a more comprehensive explanation of the relationships among CSR, environmental performance, green innovation, and financial performance. Future studies are also recommended to broaden the scope of research by including industrial sectors other than manufacturing and extending the observation period, thereby providing a more representative and comprehensive understanding of the relationships among the variables examined.

References

1. Aftab J, Abid N, Sarwar H, Amin A, Abedini M, Veneziani M. Does corporate social responsibility drive financial performance? Exploring the significance of green innovation, green dynamic capabilities, and perceived environmental volatility. Jurnal Corporate Social Responsibility and Environmental Management,2023:31(3):1634–1653.
2. Ani D. The Effect of Environmental Performance on The Value of The Company with Financial Performance as an Intervening Variable. Jurnal Ilmiah Bisnis,Manajemen Dan Akuntansi,2021:1(1):17–29.
3. Ardani NK S, Mahyuni PM. Penerapan Corporate Social Responsibility (CSR) dan Manfaatnya Bagi Perusahaan. Jurnal Manajemen Bisnis,2020:17(1):12–23.

4. Bonsu MO, Guo Y, Zhu X. Does green innovation mediate corporate social responsibility and environmental performance? Empirical evidence from emerging markets. Journal of Applied Accounting Research,2024:25(2):221–239.
5. Chouaibi S, Chouaibi J, Rossi M. ESG and corporate financial performance: the mediating role of green innovation: UK common law versus Germany civil law. EuroMed Journal of Business,2022:17(1):46–71.
6. Dewi AP, Zagladi AN. Pengaruh Green Innovation dan Keberlangsungan Hidup terhadap Kinerja Keuangan UMKM. Journal of Business, Management and Accounting,2025:6(2):619–630.
7. Dowling J, Pfeffer J. Organizational Legitimacy: Social Values and Organizational Behavior. The Pacific Sociological Review,1975:18(1):122–136.
8. Freeman RE, Wicks AC, Parmar B. Stakeholder theory and The corporate objective revisited. In Organization Science,2004:15(3):364–369.
9. González-Blanco J, Coca-Pérez JL, Guisado-González M. The Contribution of Technological and Non-Technological Innovation to Environmental Performance . An Analysis with a Complementary Approach. Sustainability,2018:10(11):4014.
10. Hart SL. A Natural-Resource-Based View of the Firm. The Academy of Management Review,1995:20(4):986–1014.
11. Hart SL, Dowell G. A natural-resource-based view of the firm: Fifteen years after. In Journal of Management,2011:37(5):1464–1479.
12. Haryanto H, Hartono C, Hesniati H. Unlocking Profitability: How CSR Practices Drive Financial Performance Through Green Innovation. Jurnal Dinamika Akuntansi Dan Bisnis,2025:12(1):21–40.
13. Intari APN, Khusnah H. Pengaruh Green Innovation Terhadap Kinerja Keuangan dengan Kinerja Lingkungakan sebagai Mediasi. Jurnal Ilmiah Akuntansi Dan Keuangan,2023:12(2):149–160.
14. Kahfi MT, Surianti M. Pengaruh Green Innovation , Kebijakan Hutang , dan Keputusan Investasi Terhadap Kinerja Keuangan Perusahaan. Jurnal Publikasi Ilmu Manajemen Dan E-Commerce, 2025, 82–96.
15. Kholmi M, Nafiza SA. Pengaruh Penerapan Green Accounting dan Corporate Social Responsibility Terhadap Profitabilitas (Studi Pada Perusahaan Manufaktur Yang Terdaftar di BEI Tahun 2018-2019). Reviu Akuntansi Dan Bisnis Indonesia,2022:6(1):143–155.
16. Kraus S, Rehman SU, García FJS. Corporate social responsibility and environmental performance: The mediating role of environmental strategy and green innovation. Technological Forecasting and Social Change,2020:160:120262.
17. Kurniawan IS, Setiawati L, Iskandar, Herawati, Muthadina A, Salsabilla A. Pengaruh Kinerja Lingkungan Terhadap Kinerja Keuangan Dengan Corporate Social Responsibility (Csr) Sebagai Variabel Intervening. In Proceeding of National Conference on Accounting&Finance,2023:5:90–97.
18. Leniwati D, Handayani NF, Wicaksono A, Wahyuni E. Corporate Social Responsibility Disclosure, Environmental Performance, and Corporate Profitability: Green Innovation as Intervening Variable. AFRE Accounting and Financial Review,2023:6(3):384–393.
19. Liu L, Feng A, Liu M. The effect of green innovation on corporate financial performance: Does quality matter? Finance Research Letters,2024:62:105255.
20. Marcelina J, Adi IKY, Dwitrayani MC. Pengaruh Corporate Social Responsibility, Kinerja Lingkungan Dan Green Process Innovation Terhadap Kinerja Keuangan Perusahaan. Journal Research of Accounting,2023:5(1):220–234.
21. Meiyana A, Aisyah M. Pengaruh Kinerja Lingkungan, Biaya Lingkungan dan Ukuran Perusahaan terhadap Kinerja Keuangan dengan Corporate Socil Responsibility sebagai Variabel Intervening. Nominal:Barometer Riset Akuntansi Dan Manajemen,2019:8(1):1–18.
22. Mikhaylov A, Moiseev N, Aleshin K, Burkhardt T. Global climate change and greenhouse effect. Entrepreneurship and Sustainability Issues,2020:7(4):2897–2913.
23. Nabila TC, Sutjahyani D. Pengaruh Pengungkapan Corporate Social Responsibility Dan Biaya CSR Terhadap Kinerja Perusahaan Pada Masa Pandemi Pada Perusahaan Manufaktur Sub Sektor Makanan Dan Minuman Yang Terdaftar Di Bursa Efek Indonesia (BEI) Tahun 2019-2021. Jurnal Mutiara Ilmu Akuntansi (JUMIA),2023:1:01–24.
24. Nawawi A, Murtanto. Pengaruh Green Accounting, Green Innovation dan Corporate Social Responsibility terhadap Kinerja Keuangan pada Perusahaan Sektor Manufaktur. Jurnal Ekonomi Trisakti,2025:5(1):23–32.
25. Novitasari M, Tarigan ZJH. The Role of Green Innovation in the Effect of Corporate Social Responsibility on Firm Performance. Economies Article,2022:10(117):1–19.
26. Przychodzen W, Leyva DI, Hiz D. First - mover advantages in green innovation — Opportunities and threats for financial performance : A longitudinal analysis. Jurnal Corporate Social Responsibility and Environmental Management, 2019, 1–19.
27. Ramadhan LA, Handayani N. Pengaruh Corporate Social Responsibility dan Good Corporate Governance terhadap Kinerja Perusahaan. Jurnal Ilmu Dan Riset Akuntansi,2018:7(10):1–18.
28. Sahid IM, Henny D. Pengaruh Green Intellectual Capital Index, Biaya Corporate Social Responsibility, Ukuran Perusahaan , Struktur Modal dan Keputusan Investasi terhadap Kinerja Keuangan. Jurnal Akuntansi Trisakti,2023:10:273–290.
29. Saleh M, Zulkifli N, Muhamad R. An Empirical Examination of the Relationship between Corporate Social Responsibility Disclosure and Financial Performance in an Emerging Market. In 16th Annual Conference on Pacific Basin Finance Economics Accounting Management (PBFEAM) Malaysia., 2008, 1–22.
30. Saputra A, Rini E, Absah Y. Pengaruh corporate social responsibility dan green innovation terhadap kinerja keuangan perusahaan. Management and Business Review,2024:8(1):1–23.
31. Sarfraz M, Ozturk I, Yoo S, Raza MA, Han H. Toward a new understanding of environmental and financial

performance through corporate social responsibility, green innovation, and sustainable development. Humanities and Social Sciences Communications,2023:10(1):297.
32. Setyaningsih RD, Asyik NF. Pengaruh Kinerja Lingkungan terhadap Kinerja Keuangan dengan Corporate Social Responsibility as pemoderasi. Jurnal Ilmu Dan Riset Akuntansi, 2016, 5, 1–15.
33. Shuwaikh F, Benkraiem R, Dubocage E. Investment in Green Innovation: How does It Contribute to Environmental and Financial Performance? In Journal of Innovation Economics and Management, 2023, 41(2).
34. Suaidah YP, Putri CA. Pengaruh Kinerja Lingkungan Dan Corporate Social Responsibility Terhadap Kinerja Keuangan. Jurnal Riset Akuntansi Dan Keuangan Dewantara,2020:3(2):101–109.
35. Supadi YM, Sudana IP. Pengaruh Kinerja Lingkungan dan Corporate Social Responsibility pada Perusahaan Sektor Pertambangan. E-Jurnal Ekonomi Dan Bisnis Universitas Udayana,2018:7(4):1165–1189.
36. Wan J, Jin Y, Ji H. Corporate Social Responsibility and Green Innovation : The Moderating Roles of Unabsorbed Slack Resources and Media Evaluation. Sustainability,2023:15(6):4743.
37. Yuan B, Cao X. Do corporate social responsibility practices contribute to green innovation? The mediating role of green dynamic capability. Technology in Society,2022:68:1–15.
38. Zhang B, Zhao S, Fan X, Wang S. Green supply chain integration , supply chain agility and green innovation performance : Evidence from Chinese manufacturing enterprises. Frontiers in Environmental Science,2022:10:1045414.