

Environmental Responsibility, Innovation, and Firm Value: A Study of Environmentally Sensitive Industries

Rita Wijayanti¹
Lintang Kurniawati²
Arinda Herliana³
Nadilla Nur Azizah⁴

^{1,2,3,4}Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, Indonesia

*Correspondences: rw120@ums.ac.id

ABSTRACT

This study aims to analyze the effect of corporate environmental responsibility on firm value, with corporate innovation as a mediating variable, in environmentally sensitive industries in Indonesia. The study uses a sample of 205 companies listed on the Indonesia Stock Exchange during the 2021–2023 period, covering the mining, energy, chemical, and pulp and paper sectors, which are characterized by high environmental risk and strong regulatory pressure. Corporate environmental responsibility is measured using a multidimensional index that includes legal awareness, social evaluation, environmentally friendly production, low-carbon technology, and green management. The results show that corporate environmental responsibility has a positive and significant effect on firm value. In addition, corporate innovation is found to partially mediate this relationship, indicating its role as a mechanism that transforms environmental commitment into long-term economic value. These findings conclude that the integration of environmental responsibility and innovation is a key strategy for enhancing competitiveness and creating sustainable firm value.

Keywords: Environmental Responsibility; Corporate Innovation; Firm Value; Environmentally Sensitive Industries

Environmental Responsibility, Innovation, and Firm Value: A Study of Environmentally Sensitive Industries

ABSTRAK

Penelitian ini bertujuan menganalisis pengaruh tanggung jawab lingkungan perusahaan terhadap nilai perusahaan dengan inovasi perusahaan sebagai variabel mediasi pada industri sensitif lingkungan di Indonesia. Penelitian menggunakan sampel 205 perusahaan yang terdaftar di Bursa Efek Indonesia selama periode 2021–2023, meliputi sektor pertambangan, energi, kimia, serta pulp dan kertas yang memiliki risiko lingkungan tinggi dan tekanan regulasi kuat. Tanggung jawab lingkungan perusahaan diukur menggunakan indeks multidimensional yang mencakup kesadaran hukum, evaluasi sosial, produksi ramah lingkungan, teknologi rendah karbon, dan manajemen hijau. Hasil penelitian menunjukkan bahwa tanggung jawab lingkungan perusahaan berpengaruh positif dan signifikan terhadap nilai perusahaan. Selain itu, inovasi perusahaan terbukti memediasi secara parsial hubungan tersebut, sehingga berperan sebagai mekanisme yang mentransformasikan komitmen lingkungan menjadi nilai ekonomi jangka panjang. Temuan ini menyimpulkan bahwa integrasi tanggung jawab lingkungan dan inovasi merupakan strategi penting dalam meningkatkan daya saing dan menciptakan nilai perusahaan yang berkelanjutan.

Kata Kunci: Tanggung Jawab Lingkungan; Inovasi Perusahaan; Nilai perusahaan; Industri sensitif lingkungan

Artikel dapat diakses : <https://ejournal1.unud.ac.id/index.php/akuntansi/index>



e-ISSN 2302-8556

Vol. 36 No. 3
Denpasar, 30 Maret 2026
Hal. 597-611

DOI:
10.24843/EJA.2026.v36.i03.p03

PENGUTIPAN:

Wijayanti, R., Kurniawati, L., Herliana, A., & Azizah, N. N. (2026). Environmental Responsibility, Innovation, and Firm Value: A Study of Environmentally Sensitive Industries. *E-Jurnal Akuntansi*, 36(3), 597-611

RIWAYAT ARTIKEL:

Artikel Masuk:
1 Januari 2026
Artikel Diterima:
4 Maret 2026

INTRODUCTION

Climate change and environmental degradation are urgent issues characterized by pollution, scarcity of natural resources, and ecosystem damage that threaten the sustainability of economic activities. The Covid-19 pandemic has exacerbated this condition while emphasizing the urgency of transformation towards sustainable development. In response to this, the international community encourages sustainability-based economic recovery and environmentally friendly business practices, so that companies are required to create economic, social, and environmental value simultaneously (Li et al., 2020). As a result, companies are facing increasing pressure to integrate environmental issues into their business and operational strategies to maintain long-term competitiveness.

Corporate environmental responsibility (CER) is seen as an important pillar of sustainable development because it reflects the internalization of environmental aspects in the company's strategic decision-making (Li et al., 2020). In Indonesia, the commitment to environmental protection is strengthened through regulations such as Law No. 32 of 2009 and the Company Performance Rating Assessment Program (PROPER). PROPER 2022 data shows that many companies are still earning red and black ratings, which indicates that CER is not yet fully integrated into the company's business strategy. This condition raises questions about the ability of environmental responsibility to create economic benefits, especially increasing company value, or simply perceived as an additional cost burden.

The literature shows mixed findings regarding the relationship between environmental responsibility and corporate values. A number of studies place environmental practices as a source of competitive advantage through strengthening reputation, social legitimacy, and the quality of relationships with stakeholders (Lloret, 2016; Phiri et al., 2019). The perspective of stakeholder theory views environmental commitment as a means of reducing information asymmetry, emphasizing regulatory risks, and increasing investor confidence which has implications for increasing company value (Li et al., 2020; Triyono et al., 2025). Conversely, other findings suggest that environmental investments have the potential to increase operational costs and depress short-term financial performance, so the relationship between environmental performance and company value is inconsistent or non-linear (Li et al., 2018; Trumpp & Guenther, 2017). These variations in results indicate that the economic impact of CER depends on the company's internal mechanism in converting environmental commitments into economic value.

The latest literature places corporate innovation as an important mechanism in explaining the relationship between environmental responsibility and corporate values. Studies by Engko & Rahmiati (2025) and Li et al. (2020) show that environmental commitment drives sustainability-based innovation that contributes to increased corporate value, particularly in industries with high environmental risks. Stakeholder and regulatory pressure also plays a role in driving the integration of environmental issues into corporate innovation strategies (Kawai et al., 2018; Yang et al., 2019). A number of studies still focus on the direct influence of environmental responsibility on company value without examining the role of innovation as a comprehensive mediation mechanism

(Belinda & Sulfitri, 2025; Dianti & Puspitasari, 2024). Empirical evidence on integrative models of environmental responsibility, innovation, and corporate value in the context of developing countries is limited.

The limitations of previous research are becoming increasingly evident in environmentally sensitive industries in Indonesia, such as mining, energy, chemicals, and pulp and paper, which face high regulatory pressures and significant environmental risks (Cordeiro & Tewari, 2015; Radhouane et al., 2020). The dominance of studies in developed countries and homogeneous industrial sectors limits the generalization of findings to the context of developing countries. This study aims to analyze the influence of corporate environmental responsibility on company value by placing innovation as a mediating variable in environmentally sensitive industries in Indonesia for the 2021–2023 period. This approach is expected to explain the process of transforming environmental commitments into long-term economic value and enriching the sustainability literature in the context of developing countries.

The positive relationship between environmental responsibility and corporate values can be explained through stakeholder theory that views stakeholders as a source of value creation (Tantalo & Priem, 2016). The difficulty of external parties in assessing environmental commitments encourages companies to adopt proactive environmental practices to build reputation and social legitimacy. This practice has been proven to increase company value and strengthen competitiveness (Dixon-Fowler et al., 2017; Li et al., 2020). In the long term, environmental responsibility supports corporate sustainability through risk management, resource efficiency, and increased investor confidence (Li et al., 2020; Phiri et al., 2019).

Empirical findings show that environmental commitment is associated with higher corporate value, as evidenced by Dixon-Fowler et al. (2017) and Sabherwal et al. (2019) through Tobin's Q measurements. Increasing stakeholder attention to environmental issues (Geraldina et al., 2025; Tapver, 2019; Trumpp & Guenther, 2017) emphasized the importance of a comprehensive environmental responsibility measurement system, both for the evaluation of company performance (Wardhani et al., 2021) and as a source of information for investors. Thus, environmental responsibility serves to maximize stakeholder value while supporting the company's sustainability.

H₁: Environmental responsibility has a positive effect on the company's value.

Increasingly intensive environmental damage increases stakeholder attention to sustainability and encourages companies to balance environmental performance with innovation investments to strengthen competitiveness (Li et al., 2020). The integration of social and environmental issues into business strategies is a trigger for innovation. Based on stakeholder theory and institutional theory, pressure from stakeholders and regulators has been shown to encourage the development of company innovation (Kawai et al., 2018). The findings of Yang et al. (2019) also show that the business and social pressures felt by managers are positively correlated with the implementation of proactive environmental strategies and the improvement of the company's innovation capabilities.

Innovation is a long-term determinant of competitiveness, while failure to innovate risks weakening a company's position in the market. A proactive

environmental strategy needs to be integrated with innovation so that environmental conservation commitments are effective and sustainable (Wijethilake et al., 2018). The strategy also reflects managers' consideration of the balance of costs and benefits of innovation, where a strong environmental orientation encourages the improvement of the company's innovation capabilities (Gröschl et al., 2019; Song & Yu, 2018)

H₂: Environmental responsibility has a positive effect on the company's innovation.

Corporate innovation is generally seen as a knowledge-based activity that plays an important role in improving business sustainability. In a dynamic industrial environment, the ability to innovate helps companies overcome internal barriers, achieve sustainability goals, and create added value for stakeholders (Song & Yu, 2018). Innovation is also an important element for a company's long-term success in a competitive market (Adjei Kwakwa et al., 2018; Naranjo-Valencia et al., 2016), and proven to increase company performance and value (Ryu et al., 2021). In empirical research, innovation is generally proxied through research and development (R&D) costs as an indicator of the creation of new products, processes, and knowledge. R&D investments drive differentiation, cost efficiency, and competitive advantage which is reflected in increased company value (Li et al., 2020). Empirical evidence shows a positive relationship between R&D investment and company value (Rajapathirana & Hui, 2018; Song & Yu, 2018). Thus, innovation is seen as relevant as a mediating variable that transforms environmental responsibility into a company's economic value.

H₃: Corporate innovation mediates the influence of environmental responsibility on the company's value.

RESEARCH METHODS

The population in this study is companies that are included in environmentally sensitive industries and are listed on the Indonesia Stock Exchange (IDX) during the period 2021 to 2023. The industry was chosen because it has a high level of pollution risk and environmental stress, such as the mining, energy, chemical, pulp and paper, and heavy manufacturing sectors. Companies in this sector are often in the spotlight of the public and regulators because their operational activities have the potential to cause significant environmental impacts (Chung et al., 2025; Radhouane et al., 2020). In addition, this sector is a major focus in the Corporate Performance Rating Assessment Program in Environmental Management (PROPER) by the Ministry of Environment and Forestry. These conditions make environmentally sensitive industries an appropriate empirical context to examine the relationship between environmental responsibility, corporate innovation, and corporate value (Liu et al., 2015; Zhang & Liu, 2023).

Sample selection was carried out using the purposive sampling method based on the criteria of the company that has a complete annual report and provides relevant data for all research variables. Observation years that do not have complete data are excluded from the analysis so that the research results remain valid and reliable. Based on these criteria, 205 companies were obtained as a final sample with a total of 556 observations. The data used is secondary data

sourced from the annual report and accessed through the company's official website and the Indonesia Stock Exchange website.

To provide a comprehensive evaluation, this study measures environmental responsibility through five dimensions, namely legal awareness, social evaluation, environmentally friendly production, low-carbon technology, and green management (Kim et al., 2017; Kolk, 2016; Phiri et al., 2019; Reyes-Rodríguez et al., 2016). The indicators of each dimension are described in Table 1. The measurement was carried out using a content analysis technique using a dichotomic scale, which is a score of 1 if the company meets the indicators, and a score of 0 if the indicators are not met. To keep the direction of the indicator consistent, especially for the third indicator on the legal awareness dimension, companies that reported being subject to environmental sanctions were given a score of 0, while companies that did not receive sanctions were given a score of 1. The score of each dimension is obtained from the sum of all indicators in that dimension.

Table 1. Measurement of Corporate Environmental Responsibility Engagement

Dimensions	Indicator
Legal awareness	(1) Follow GRI's sustainability reporting guidelines; (2) Disclose environmental and sustainable development information; (3) Not subject to environmental sanctions.
Social evaluation	(4) Receiving environmental awards; (5) Have environmental advantages.
Eco-friendly production	(6) Implementing a circular economy; (7) Carry out environmentally friendly production.
Low-carbon technology	(8) Saving energy; (9) Developing or implementing environmentally friendly technology.
Green management	(10) Third-party verification; (11) Have a vision or idea of environmental responsibility; (12) Have ISO 14001 certification; (13) Implementing the concept of green office.

Source: Research Data, 2025

Company value describes the company's ability to create maximum profits for all stakeholders. The measurement of company value in this study uses the Tobin's Q ratio, which is widely used in the financial accounting literature because it is considered more accurate in reflecting the company's market value. Tobin's Q is calculated based on a comparison between the company's market value and the cost of replacing its assets, thus providing a more comprehensive picture of the company's performance.

The mediating variable, namely company innovation, is measured using the natural logarithm of one plus research and development costs ($\ln(1+R\&D)$) to overcome the very tight distribution and the existence of zero observations. R&D costs are seen as an important indicator of innovation activity because they reflect the company's efforts in developing new products, improving production processes, and creating new knowledge. Therefore, R&D intensity is widely used as a measure of innovation in previous research.

This study used four control variables, namely company size, company age, leverage, and liquidity, to improve the accuracy of the model. The size of the company is controlled because companies with a larger scale tend to have stronger

resources to support innovation activities (Li et al., 2020; Liu et al., 2015). The age of a company reflects operational stability and reputation which has the potential to influence market perception (Ryu et al., 2021). Leverage is used to control the financial risks arising from a company's funding structure (Cardillo & Basso, 2025). Meanwhile, liquidity reflects a company's ability to meet short-term obligations and maintain financial stability (Hikmah & Daljono, 2023)

This study developed three regression models to answer the research objectives.

Model (1): tests the influence of environmental responsibility on the company's value.

$$\text{Tobin's Q} = \alpha + \beta_1 \text{CER} + \beta_2 \text{SIZE} + \beta_3 \text{AGE} + \beta_4 \text{LEV} + \beta_5 \text{LIQ} + \varepsilon \dots\dots\dots(1)$$

Model (2): tests the influence of environmental responsibility on corporate innovation.

$$\text{INNOV} = \alpha + \beta_1 \text{CER} + \beta_2 \text{SIZE} + \beta_3 \text{AGE} + \beta_4 \text{LEV} + \beta_5 \text{LIQ} + \varepsilon \dots\dots\dots(2)$$

Model (3): tests the influence of environmental responsibility and corporate innovation on the company's value.

$$\text{Tobin's Q} = \alpha + \beta_1 \text{CER} + \beta_2 \text{INNOV} + \beta_3 \text{SIZE} + \beta_4 \text{AGE} + \beta_5 \text{LEV} + \beta_6 \text{LIQ} + \varepsilon \dots\dots\dots(3)$$

All data was analyzed using Stata 13 software. This study uses panel data regression with the Random Effect Model approach, which is selected based on the results of the necessary diagnostic tests.

RESULTS AND DISCUSSION

Based on the results of descriptive statistical analysis in Table 2, the company's environmental responsibility (CER) is in the range of 0 to 12 points, with an average value of 2.644 and a standard deviation of 3.245. This relatively low average value indicates that, in general, the sample companies still show a limited level of environmental responsibility disclosure. In addition, no company consistently achieves maximum scores, reflecting the lack of internalized comprehensive environmental reporting practices in corporate reporting. These findings indicate that the environmental dimension is still positioned as a complementary element, rather than an integral part of a company's strategy and reporting.

The value of companies proxied with Tobin's Q has an average value of 2.339, with a standard deviation of 1.586. This shows that, in general, the companies in the sample are judged by the market to be above their book value, although there are significant valuation variations between companies. The high dispersion of Tobin's Q values indicates a heterogeneity of market perception, which opens up space for the role of non-financial factors such as environmental responsibility and innovation in explaining the differences in a company's value in the market.

The company's innovation (INNOV) proxied by the natural logarithm of one plus research and development costs ($\ln(1+\text{R\&D})$) has an average value of 1.42, with a standard deviation of 1.05. The range of values from 0.00 to 6.80 shows that there is a fairly substantial difference in the intensity of innovation investment between companies. The existence of a zero minimum value reflects that some companies do not report R&D activities, while a relatively high maximum value

indicates that only a small percentage of companies make R&D-based innovation a key strategic component.

The control variables show the characteristics of diverse firms. Company size (SIZE) had an average value of 22.438 with moderate variation, reflecting differences in operational scale between companies in the sample. The age of the company (AGE) has an average value of 11.549 years, with a fairly wide range, which indicates a difference in the level of maturity of the organization. Meanwhile, leverage (LEV) and liquidity (LIQ) show relatively high dispersion, reflecting significant differences in funding structures as well as the company's ability to meet short-term obligations. Variations in these control variables are important to control in empirical analysis to ensure that the influence of environmental responsibility and innovation on the value of the company is not distorted by differences in the financial characteristics of the company.

Table 2. Descriptive Statistical Analysis Results

Variable	Obs.	Red	Std. Dev	Min	Max
Tobin's Q	556	2.339	1.586	0.219	20.141
CER	556	2.644	3.245	0	12
INNOV	556	1.42	1.05	0.00	6.80
SIZE	556	22.438	1.424	19.063	28.379
AGE	556	11.549	5.438	0	26
LEV	556	1.842	1.103	0.000	6.742
LIQ	556	1.780	1.684	0.104	26.894

Source: Research Data, 2025

Table 3 presents a Pearson correlation matrix between company values (Tobin's Q), corporate environmental responsibility (CER), innovation (INNOV), and control variables. The correlation results showed that CER had a positive but relatively weak relationship with Tobin's Q ($r = 0.173$), indicating that the market is likely to respond positively to environmental responsibility disclosures, although the impact has not been fully reflected directly in the company's value. In addition, innovation showed a positive correlation with Tobin's Q ($r = 0.286$) and CER ($r = 0.241$), providing an early indication of the link between environmental responsibility, innovation, and company value, which was subsequently explicitly tested through mediation regression analysis.

The correlation between CER and control variables showed a positive relationship with firm size ($r = 0.419$) and firm age ($r = 0.199$), indicating that larger and more mature firms tended to have higher levels of environmental disclosure. Correlation between variables is generally low to moderate, and there are no coefficients that indicate serious multicollinearity. Thus, these correlation results support the feasibility of using multivariate regression analysis and provide an initial empirical basis for testing the mediating role of innovation at the next stage of analysis.

Table 3. Pearson Correlation Analysis Results

	Tobin's Q	CER	INNOV	SIZE	AGE	LEV	LIQ
Tobin's Q	1.000						
CER	0.173	1.000					
INNOV	0.286	0.241	1.000				
SIZE	0.214	0.419	0.168	1.000			
AGE	0.307	0.199	0.295	0.142	1.000		
LEV	-0.028	0.097	0.031	-0.042	0.333	1.000	
LIQ	0.106	0.237	0.261	-0.176	-0.053	-0.243	1.000

Source: Research Data, 2025

Table 4 presents the results of the regression analysis for Model (1) used in the first hypothesis test (H1). This hypothesis states that CER is positively related to the company's value. Based on the estimated results in Table 4, the CER variable has a regression coefficient of 0.183 with a z-statistic value of 2.11 and a significance level of $p = 0.035$, which is significant at the level of 5%. These results show that CER has a positive and significant effect on the value of the company as measured using Tobin's Q. Thus, the H1 hypothesis is empirically accepted. A regression coefficient of 0.183 indicates that every one unit increase in CER will increase Tobin's Q value by 0.183 units, assuming another variable is constant (*ceteris paribus*). These findings imply that the market is responding positively to the company's commitment to carrying out environmental responsibility. Theoretically, these results are consistent with signaling theory and legitimacy theory, which emphasize that the practice and disclosure of CER can increase stakeholders' perception of the company's quality and sustainability, so that it is reflected in the increase in company value.

The regression results also showed that the age of the company (AGE) had a positive and significant effect on the company's value at the level of 1% (coefficient = 0.047; $z = 3.36$). These findings indicate that more mature companies tend to have better reputations, operational experience, and performance stability, making them more appreciated by the market. Meanwhile, the liquidity variable (LIQUE) showed a positive and significant influence at the level of 10% on the company's value (coefficient = 0.144; $z = 1.85$). These results indicate that an adequate level of liquidity provides financial flexibility for companies to meet short-term obligations and support operational activities, which ultimately contributes positively to market perception.

Table 4. Results of Model 1 Regression Analysis

Tobin's Q	Coefficient	Std. Error	Z-statistic	P-value
CER	0,183	0,087	2,11	0,035 **
SIZE	0,017	0,097	0,18	0,857
AGE	0,047	0,014	3,36	0,001 ***
LEV	0,001	0,053	0,02	0,984
LIQ	0,144	0,078	1,85	0,064 *
Adj R2 (overall)	0,1813			
Prob. Chi ²	0,0000			

Note: *, **, ***, represent 10%, 5%, and 1% significance, respectively.

Source: Research Data, 2025

The second hypothesis (H2) in this study states that environmental responsibility (CER) has a positive effect on innovation. To test this hypothesis, Model (2) with innovation (INNOV) was used as a dependent variable. Based on the results of the regression estimation presented in Table 5, the CER variable has a regression coefficient of 0.133 with a z-statistic value of 1.96 and a significance level of $p = 0.050$, which is significant at the level of 5%.

These results show that CER has a positive and significant effect on innovation. Thus, the H2 hypothesis is empirically accepted. These findings indicate that the higher the company's commitment to environmental responsibility, the greater the incentive for the company to carry out innovation activities.

In addition, the regression results also showed that the variables of company age (AGE) and liquidity (LIQ) had a positive and significant effect on innovation, while company size (SIZE) and leverage (LEV) showed no significant influence. These findings imply that a company's internal capacity, as reflected in operational experience and availability of financial resources, plays a greater role in driving innovation than structural factors such as funding size and structure.

Table 5. Results of Model 2 Regression Analysis

INNOV	Coefficient	Std. Error	Z-statistic	P-value
CER	0,133	0,068	1,96	0,050 **
SIZE	0,074	0,049	1,51	0,131
AGE	0,726	0,097	7,48	0,000 ***
LEV	0,265	0,180	1,47	0,142
LIQ	0,146	0,026	5,62	0,000 ***
Adj R2 (overall)	0,0940			
Prob. Chi ²	0,0000			

Note: *, **, ***, represent 10%, 5%, and 1% significance, respectively.

Source: Research Data, 2025

Table 6 presents the results of the regression analysis of Model (3) which is used to test the role of innovation (INNOV) as a mediating variable in the relationship between corporate environmental responsibility (CER) and company value measured using Tobin's Q. This model incorporates the CER and INNOV variables simultaneously with the control variables, thus allowing the evaluation of whether the influence of CER on company value is channeled through innovation.

The results of the estimation showed that the INNOV variable had a positive and significant effect on the company's value, with a coefficient of 0.348, a z-statistic value of 3.11, and a significance level of $p = 0.002$. These findings indicate that increased innovation activities contribute substantially to the increase in company value. Economically, these results reflect that the market gives a higher appreciation to companies that are able to translate environmental commitments and sustainability strategies into innovative value-added activities. Meanwhile, the CER coefficient remained positive, but its significance decreased to marginal at the level of 10% (coefficient = 0.112; $z = 1.75$; $p = 0.080$) after the INNOV variable was incorporated into the model. This weakening of significance indicates that part of the influence of environmental responsibility on corporate value is channeled through innovation. In other words, these results provide

empirical evidence of the existence of partial mediation of innovation in the relationship between CER and company value.

For the control variable, the age of the company (AGE) shows a positive and significant influence on the value of the company, which indicates that more mature companies tend to have better stability, reputation, and accumulation of capabilities so that they are appreciated more by the market. Liquidity (LIQ) also has a positive and significant effect, indicating that a company's ability to meet short-term obligations is perceived as a signal of financial strength that supports the increase in the company's value. In contrast, firm size (SIZE) and leverage (LEV) did not show a significant influence on Tobin's Q in this model.

Overall, the Adjusted R² value was 0.1875 and Prob. Chi² of 0.000 indicates that the model has adequate and statistically significant explanatory power. These findings reinforce the argument that environmental responsibility not only has a direct impact on corporate value, but also works through innovation mechanisms, thus confirming the strategic role of innovation as a key channel in converting environmental commitments into economic value recognized by the market.

Table 6. Results of Model 3 Regression Analysis

Tobin's Q	Coefficient	Std. Error	Z-statistic	P-value
CER	0,112	0,064	1,75	0,080 *
INNOV	0,348	0,112	3,11	0,002 ***
SIZE	0,045	0,056	0,80	0,424
AGE	0,065	0,029	2,24	0,025 **
LEV	0,038	0,041	0,93	0,352
LIQ	0,199	0,081	2,46	0,014 **
Adj R ² (overall)	0,1875			
Prob. Chi ²	0,0000			

Note: *, **, ***, represent 10%, 5%, and 1% significance, respectively.

Source: Research Data, 2025

The results of the study show that corporate environmental responsibility (CER) has a positive and significant effect on company value as measured by Tobin's Q. These findings provide empirical support for Hypothesis 1 (H1) and are in line with stakeholder theory and legitimacy theory, which assert that companies that actively meet social and environmental demands will gain legitimacy and support from stakeholders. which is ultimately reflected in the increase in the company's market value. Empirically, these results are consistent with the findings of Tantalo & Priem (2016) and Trumpp & Guenther (2017), which suggest that the integration of environmental responsibility into a company's strategy can create economic value through increased reputation, investor trust, and stronger relationships with key stakeholders.

However, these findings are not entirely in line with a number of studies that highlight the potential negative impact of CER on a company's financial performance and value. Some studies argue that excessive environmental investment can increase operational costs, decrease short-term profitability, as well as divert resources from the company's core activities (Chen et al., 2025; Li et al., 2018). These differences in results show inconsistencies in the literature, which can be explained by differences in the time horizon of analysis, industry context, and the company's ability to manage CER strategically. In the context of this study,

empirical evidence indicates that the market emphasizes the long-term benefits of CER over its short-term costs, so the market response to CER practices tends to be positive.

Furthermore, the results of the Hypothesis 2 (H2) test show that CER has a positive and significant effect on company innovation. These findings reinforce the view that the pressure and commitment to environmental responsibility encourages companies to develop innovations, both in the form of products and production processes that are more environmentally friendly. These results are consistent with previous research that places CER as the main driver of green innovation and environmental innovation (Song & Yu, 2018; Wijethilake et al., 2018). From a resource-based perspective, CER can be seen as a trigger for the development of internal capabilities that are difficult to replicate, where companies leverage organizational knowledge, technology, and learning to create innovative solutions that have economic value.

Another key finding is evidence that innovation plays a role as a partial mediating variable in the relationship between CER and company value. The results of Model (3) show that when innovations are incorporated into the model, the direct influence of CER on the value of the company remains positive but experiences a decrease in the level of significance. This pattern indicates that some of the influence of CER on company value is channeled through innovation, thus supporting the argument that CER not only has a direct impact on market perception, but also works through the company's internal mechanisms. These findings expand on the previous literature by showing that innovation is an important channel that converts environmental commitments, which in the early stages can potentially be perceived as a cost burden, into a source of corporate value creation that is clearly recognized by the market.

Theoretically, these results enrich signaling theory, in which CER and innovation serve as credible signals regarding managerial quality, long-term orientation, and sustainability of the company's strategy. Companies that are able to integrate CER with innovative activities are perceived to have better growth prospects and lower risk, thus obtaining a higher market valuation. Thus, this study shows that the tension between environmental goals and economic goals is not inherent, but rather relies heavily on the ability of companies to translate environmental responsibility into productive innovation strategies.

From a practical standpoint, these findings have important implications for investors, management, and policymakers. For investors, the results of this study provide evidence that companies with strong CER commitments and intensive innovation activities tend to have higher corporate value, making them relevant as a consideration in long-term investment decisions. For management, these findings confirm that CER should not be seen solely as a compliance obligation, but as a strategic investment that can create value through innovation. Meanwhile, for regulators and governments, these results underscore the importance of encouraging CER practices and innovation through incentive policies, increased transparency of environmental reporting, and support for green finance and technology. With this synergy, CER not only contributes to increasing the company's value, but also supports the achievement of sustainable development goals more broadly.

CONCLUSION

As global demands for environmental protection and energy efficiency increase, corporate environmental responsibility is increasingly seen as a strategic part of business sustainability. This study analyzes the influence of CER on company value by examining the mediating role of corporate innovation in 205 environmentally sensitive industrial companies listed on the Indonesia Stock Exchange during the period 2021 to 2023. Using comprehensive CER measurement through a multidimensional approach, the results show that CER has a positive effect on company value, and company innovation measured through research and development cost intensity plays a partial mediator in the relationship. These findings confirm that innovation is a key mechanism that transforms a company's environmental commitment into long-term economic value, so that CER not only serves as a form of regulatory compliance, but also as a source of sustainable competitive advantage.

The results of this study have important implications for various stakeholders. For companies, increasing CER engagement needs to be integrated with innovation strategies in order to strengthen reputation, increase operational efficiency, and drive increased company value. For investors, these findings provide evidence that companies that are proactive in CER practices and innovation have better growth prospects and value stability over the long term. For policymakers, the results of the study emphasized the importance of strengthening regulations, transparency of environmental reporting, and providing incentives for CER practices and green innovation, including through the optimization of the PROPER program. However, this study has limitations, including a relatively short observation period and the limitations of the variables analyzed. Therefore, further research is recommended to extend the time horizon, include other variables such as corporate governance or green reputation, and conduct cross-industry or cross-country analysis to enrich understanding of the dynamics of CER in various economic contexts.

REFERENCES

- Adjei Kwakwa, P., Alhassan, H., & Aboagye, S. (2018). Environmental Kuznets curve hypothesis in a financial development and natural resource extraction context: evidence from Tunisia. *Quantitative Finance and Economics*, 2(4), 981–1000. <https://doi.org/10.3934/QFE.2018.4.981>
- Belinda, & Sulfitri, V. (2025). Pengaruh Akuntansi Hijau, Kinerja Lingkungan, Inovasi Hijau, Tanggung Jawab Sosial Perusahaan dan Pengungkapan Emisi Karbon terhadap Nilai Perusahaan. *J-CEKI: Jurnal Cendekia Ilmiah*, 4(2), 2554–2571.
- Cardillo, M. A. dos R., & Basso, L. F. C. (2025). Revisiting knowledge on ESG/CSR and financial performance: A bibliometric and systematic review of moderating variables. *Journal of Innovation and Knowledge*, 10(1). <https://doi.org/10.1016/j.jik.2024.100648>
- Chen, K. H., Zhang, Y., Elston, J. A., Chen, P. H., & Hsu, K. H. (2025). Environmental, social, and governance (ESG) initiative scores and firm

- performance: the importance and role of firm size. *Small Business Economics*.
<https://doi.org/10.1007/s11187-025-01096-1>
- Chung, C. Y., Kim, I., & Yang, R. (2025). Are Environmentally Sensitive Firms More Likely to Release Corporate Environmental Disclosures? Evidence From Environmental Risk Management. *Business Strategy and the Environment*, 34(3), 3338–3359. <https://doi.org/10.1002/bse.4158>
- Cordeiro, J. J., & Tewari, M. (2015). Firm Characteristics, Industry Context, and Investor Reactions to Environmental CSR: A Stakeholder Theory Approach. *Journal of Business Ethics*, 130(4), 833–849. <https://doi.org/10.1007/s10551-014-2115-x>
- Dianti, A. C., & Puspitasari, W. (2024). Pengaruh Pengungkapan Emisi Karbon, Kinerja Lingkungan, Eco-Efficiency, dan Green Innovation terhadap Nilai Perusahaan. *INNOVATIVE: Journal Of Social Science Research*, 4(1).
- Dixon-Fowler, H. R., Ellstrand, A. E., & Johnson, J. L. (2017). The Role of Board Environmental Committees in Corporate Environmental Performance. *Journal of Business Ethics*, 140(3), 423–438. <https://doi.org/10.1007/s10551-015-2664-7>
- Engko, C., & Rahmiati, A. (2025). ESG performance and firm value: green innovation as a mediator variable (evidence from Indonesia). *International Journal of Innovation Science*, 1–19. <https://doi.org/10.1108/IJIS-04-2025-0190>
- Geraldina, I., Muktiyanto, A., & Na'im, A. (2025). Enhancing ESG Performance Through Ownership Structure, Stakeholder Engagement, and Sustainable-Responsible Investment. *Riset Akuntansi Dan Keuangan Indonesia*, 10(3), 246–262. <http://journals.ums.ac.id/index.php/reaksi/index>
- Gröschl, S., Gabaldón, P., & Hahn, T. (2019). The Co-evolution of Leaders' Cognitive Complexity and Corporate Sustainability: The Case of the CEO of Puma. *Journal of Business Ethics*, 155(3), 741–762. <https://doi.org/10.1007/s10551-017-3508-4>
- Hikmah, N., & Daljono. (2023). The Impact of ESG Disclosure, Liquidity, and Leverage on Firm Value Mediated by Profitability Performance. *Kontingensi: Jurnal Ilmiah Manajemen*, 11(2), 817–831. <https://doi.org/10.56457/jimk.v11i2.xx>
- Kawai, N., Strange, R., & Zucchella, A. (2018). Stakeholder pressures, EMS implementation, and green innovation in MNC overseas subsidiaries. *International Business Review*, 27(5), 933–946. <https://doi.org/10.1016/j.ibusrev.2018.02.004>
- Kim, H., Park, K., & Ryu, D. (2017). Corporate Environmental Responsibility: A Legal Origins Perspective. *Journal of Business Ethics*, 140(3), 381–402. <https://doi.org/10.1007/s10551-015-2641-1>
- Kolk, A. (2016). The social responsibility of international business: From ethics and the environment to CSR and sustainable development. *Journal of World Business*, 51(1), 23–34. <https://doi.org/10.1016/j.jwb.2015.08.010>
- Li, Z., Liao, G., & Albitar, K. (2020). Does corporate environmental responsibility engagement affect firm value? The mediating role of corporate innovation. *Business Strategy and the Environment*, 29(3), 1045–1055. <https://doi.org/10.1002/bse.2416>

- Li, Z., Liao, G., Wang, Z., & Huang, Z. (2018). Green loan and subsidy for promoting clean production innovation. *Journal of Cleaner Production*, 187, 421–431. <https://doi.org/10.1016/j.jclepro.2018.03.066>
- Liu, C. C., Wang, L. F. S., & Lee, S. H. (2015). Strategic environmental corporate social responsibility in a differentiated duopoly market. *Economics Letters*, 129, 108–111. <https://doi.org/10.1016/j.econlet.2015.02.027>
- Lloret, A. (2016). Modeling corporate sustainability strategy. *Journal of Business Research*, 69(2), 418–425. <https://doi.org/10.1016/j.jbusres.2015.06.047>
- Naranjo-Valencia, J. C., Jiménez-Jiménez, D., & Sanz-Valle, R. (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. *Revista Latinoamericana de Psicología*, 48(1), 30–41. <https://doi.org/10.1016/j.rlp.2015.09.009>
- Phiri, O., Mantzari, E., & Gleadle, P. (2019). Stakeholder interactions and corporate social responsibility (CSR) practices: Evidence from the Zambian copper mining sector. *Accounting, Auditing and Accountability Journal*, 32(1), 26–54. <https://doi.org/10.1108/AAAJ-04-2016-2540>
- Radhouane, I., Nekhili, M., Nagati, H., & Paché, G. (2020). Is voluntary external assurance relevant for the valuation of environmental reporting by firms in environmentally sensitive industries? *Sustainability Accounting, Management and Policy Journal*, 11(1), 65–98. <https://doi.org/10.1108/SAMPJ-06-2018-0158>
- Rajapathirana, R. P. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation and Knowledge*, 3(1), 44–55. <https://doi.org/10.1016/j.jik.2017.06.002>
- Reyes-Rodríguez, J. F., Ulhøi, J. P., & Madsen, H. (2016). Corporate Environmental Sustainability in Danish SMEs: A Longitudinal Study of Motivators, Initiatives, and Strategic Effects. *Corporate Social Responsibility and Environmental Management*, 23(4), 193–212. <https://doi.org/10.1002/csr.1359>
- Ryu, S.-L., Sawng, Y., Park, S., & Won, J. (2021). Exploring the Relationship between Foreign Ownership, Innovation and Firm Value: A Korean Perspective. *Journal of Korea Trade*, 25(7), 19–40. <https://doi.org/10.35611/jkt.2021.25.7.19>
- Sabherwal, R., Sabherwal, S., Havakhor, T., & Steelman, Z. (2019). How does strategic alignment affect firm performance? The roles of information technology investment and environmental uncertainty. *MIS Quarterly: Management Information Systems*, 43(2), 453–474. <https://doi.org/10.25300/MISQ/2019/13626>
- Song, W., & Yu, H. (2018). Green Innovation Strategy and Green Innovation: The Roles of Green Creativity and Green Organizational Identity. *Corporate Social Responsibility and Environmental Management*, 25(2), 135–150. <https://doi.org/10.1002/csr.1445>
- Tantalo, C., & Priem, R. L. (2016). Value creation through stakeholder synergy. *Strategic Management Journal*, 37(2), 314–329. <https://doi.org/10.1002/smj.2337>
- Tapver, T. (2019). CSR reporting in banks: does the composition of the board of directors matter? *Quantitative Finance and Economics*, 3(2), 286–314. <https://doi.org/10.3934/QFE.2019.2.286>

- Triyono, T., Achyani, F., Prasetyo, S., & Kaira, L. (2025). Model Determining the Success of Sustainability Report Disclosure in Indonesia. *Riset Akuntansi Dan Keuangan Indonesia*, 10(1), 49–58. <http://journals.ums.ac.id/index.php/reaksi/index>
- Trumpp, C., & Guenther, T. (2017). Too Little or too much? Exploring U-shaped Relationships between Corporate Environmental Performance and Corporate Financial Performance. *Business Strategy and the Environment*, 26(1), 49–68. <https://doi.org/10.1002/bse.1900>
- Wardhani, P., Wiyadi, W., & Susila, I. (2021). Pengaruh Pengungkapan CSR, Leverage, Likuiditas dan Ukuran Perusahaan terhadap Kinerja Keuangan. *DAYA SAING: Jurnal Ekonomi Manajemen Sumber Daya*, 23(1).
- Wijethilake, C., Munir, R., & Appuhami, R. (2018). Environmental Innovation Strategy and Organizational Performance: Enabling and Controlling Uses of Management Control Systems. *Journal of Business Ethics*, 151(4), 1139–1160. <https://doi.org/10.1007/s10551-016-3259-7>
- Yang, D., Wang, A. X., Zhou, K. Z., & Jiang, W. (2019). Environmental Strategy, Institutional Force, and Innovation Capability: A Managerial Cognition Perspective. *Journal of Business Ethics*, 159(4), 1147–1161. <https://doi.org/10.1007/s10551-018-3830-5>
- Zhang, J., & Liu, Z. (2023). Study on the Impact of Corporate ESG Performance on Green Innovation Performance – Evidence from Listed Companies in China A-Shares. *Sustainability (Switzerland)*, 15(20). <https://doi.org/10.3390/su152014750>