

***THE MODERATING ROLE OF GOOD CORPORATE GOVERNANCE IN THE
RELATIONSHIP BETWEEN ENVIRONMENTAL DISCLOSURE AND GREEN
INNOVATION AND FIRM VALUE***

**PERAN MODERASI TATA KELOLA PERUSAHAAN YANG BAIK DALAM
HUBUNGAN ANTARA PENGUNGKAPAN LINGKUNGAN DAN INOVASI
HIJAU SERTA NILAI PERUSAHAAN**

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ABSTRACT

The purpose of this research is to analyze the effect of environmental disclosure and green innovation on firm value moderated by GCG. This research uses data analysis with a correlation and panel data regression approach assisted by Eviews 12 software. The data used is secondary data in the form of financial statements companies obtained from the official website of the Indonesia Stock Exchange for the years 2020-2024, with a total of 20 companies and 100 observations. The results show that when combined, environmental disclosure, green innovation, and GCG have a significant impact on firm value. However, when looked at individually, only environmental disclosure and GCG have a significant positive effect on firm value. Green innovation on its own does not have a significant influence. When tested as a moderating variable, GCG was able to strengthen the relationship between green innovation and firm value. However, GCG did not strengthen the relationship between environmental disclosure and firm value. This research is expected to be a consideration for investors so that companies can implement good corporate governance through green innovation and environmental disclosure as a form of concern for the environment and sustainability.

Keywords: Firm Value, Environmental Disclosure, Green Innovation, Good Corporate Governance (GCG).

ABSTRAK

Tujuan penelitian ini adalah untuk menganalisis pengaruh pengungkapan lingkungan dan inovasi hijau terhadap nilai perusahaan yang dimoderasi oleh GCG. Penelitian ini menggunakan analisis data dengan pendekatan korelasi dan regresi data panel dibantu oleh perangkat lunak Eviews 12. Data yang digunakan adalah data sekunder berupa laporan keuangan perusahaan yang diperoleh dari situs web resmi Bursa Efek Indonesia untuk tahun 2020-2024, dengan total 20 perusahaan dan 100 observasi. Hasil penelitian menunjukkan bahwa jika digabungkan, pengungkapan lingkungan, inovasi hijau, dan GCG memiliki pengaruh signifikan terhadap nilai perusahaan. Namun, jika dilihat secara individual, hanya pengungkapan lingkungan dan GCG yang memiliki pengaruh positif signifikan terhadap nilai perusahaan. Inovasi hijau sendiri tidak memiliki pengaruh signifikan. Ketika diuji sebagai variabel moderasi, GCG mampu memperkuat hubungan antara inovasi hijau dan nilai perusahaan. Namun, GCG tidak memperkuat hubungan antara pengungkapan lingkungan dan nilai perusahaan. Penelitian ini diharapkan dapat menjadi pertimbangan bagi investor agar perusahaan dapat menerapkan tata kelola perusahaan yang baik melalui inovasi hijau dan pengungkapan lingkungan sebagai bentuk kepedulian terhadap lingkungan dan keberlanjutan.

Kata Kunci: Nilai Perusahaan, Pengungkapan Lingkungan, Inovasi Hijau, Tata Kelola Perusahaan Yang Baik (GCG)

INTRODUCTION

Corporate sustainability refers to a company's capacity to ensure long-term survival by addressing both financial and non-financial aspects. In today's dynamic business landscape, organizations are expected to adopt sustainability practices that go beyond

financial performance. Financially, this entails the strategic and efficient allocation of funding sources to maximize profitability. On the non-financial side, sustainability is reflected through customer satisfaction, continuous product innovation, and organizational development all of which

play a critical role in driving the overall enhancement of firm value (Yawika & Handayani, 2019). An enhancement in firm value is demonstrated by a rise in stock prices, indicating market confidence in the company's performance and future outlook. The pursuit of higher profitability and the maximization of firm value are closely connected objectives, both aimed at enhancing shareholder wealth and ensuring the long-term sustainability of the company (Damas et al., 2021). For investors, firm value represents the degree to which a company effectively optimizes its resource utilization, as reflected in the year-end share price. Market value, or share price, is determined by the interaction of supply and demand within the stock market or stock exchange. An increase in share price typically signifies a rise in firm value. Consequently, optimizing the stock price is a highly strategic priority for the company, as it enhances firm value and, in turn, enables the company to successfully achieve its primary objectives of profit maximization and shareholder wealth improvement (Indrawati et al., 2023).

The growing environmental awareness within society has led to heightened demands for firms to assume greater responsibility for the environmental consequences of their operational activities. Key stakeholders—including governmental authorities, international organizations, and other relevant institutions—emphasize the necessity of corporate engagement in environmental protection through adherence to established regulations and policy frameworks. As a result of mounting stakeholder pressure, private sector entities are increasingly expected to address and mitigate the societal impacts of their business operations. Moreover, corporate

accountability is no longer confined solely to creditors and shareholders but extends to a broader stakeholder group. Firms demonstrating superior environmental performance tend to engage in more extensive voluntary environmental disclosures, aiming to maintain transparency with investors and other stakeholders. These findings suggest that both financial and environmental performance are pivotal factors influencing the degree of environmental disclosure undertaken by firms (Deswanto & Siregar, 2018). Research Aboud and Diab (2018), examining environmental disclosure has a higher value for companies, and both have a positive relationship. In addition, implementation of environmental disclosures, companies can create an environment in which they can maximize their positive impact on the environment, society, and the economy, while strengthening their market position and long-term value (Aboud & Diab, 2018).

Following this shift, pro-environmental policies began to be widely implemented in global business schemes, including the implementation of green innovations and environmental disclosure in business schemes. Implementation of green innovation that commit to environmentally friendly practices to gain support from society and improve corporate reputation (Liu, 2024). The integration of green innovation enables firms to distinguish themselves from competitors by demonstrating a proactive commitment to sustainability. This strategic differentiation contributes to enhanced financial performance, increased investor trust, and a favorable impact on firm value. Additionally, green innovation helps to alleviate the financial pressures related to environmental compliance, thereby reducing the risk of

adverse market responses to environmental disclosures. By improving operational efficiency and optimizing resource utilization, green innovation reinforces a firm's environmental reputation, supports the achievement of long-term competitive advantage, and facilitates broader market penetration (Hardiyansah & Agustini, 2021). Research conducted Pan (2022), related to the effect of green innovation on firm value, shows that companies that implement green innovation listed on the China have a positive influence on firm value. Companies with an ability of green innovation have a higher firm value. Research findings in similar countries show different results, proving that companies listed in China that adopt green innovation show an influence on firm value, but the effect tends to be temporary or short-term (Xie et al., 2022).

Good corporate governance is selected as a moderating variable because its implementation can enhance the influence of green innovation and amplify the impact of environmental information disclosure on firm value. This is due to the inherent potential of a sound corporate governance framework to align economic and environmental interests, enabling them to work synergistically in improving corporate performance and generating positive outcomes for shareholders (Karina & Setiadi, 2020). In addition, high company value will also drive high shareholder wealth, which is why company value is important for a company. Meanwhile, according to (Feng et al., 2018), firm value serves as a critical indicator, as it allows business leaders and academics to assess the overall quality and performance of a company. Since firm value represents the primary objective of a corporation, it reflects the effectiveness of its

management and operations, particularly in the financial sector. The reputation of a company—whether positive or negative—is closely linked to the extent to which its governance practices and service delivery align with established regulations and ethical standards, ensuring that no harm is caused to the public. The financial sector, in particular, is frequently associated with both civil and criminal legal cases. A high volume of public complaints regarding the services offered by financial institutions often serves as a key indicator of potential shortcomings in corporate governance. These complaints suggest that governance practices may not be implemented effectively or in compliance with legal and regulatory frameworks, ultimately leading to a decline in firm value (Jannah & Sartika, 2022).

The studies mentioned above have explored the relationship between green innovation and environmental information disclosure as forms of pro-environmental policies and their effect on firm value. However, the results remain mixed, with previous research by Agustia et al. (2019), Yao et al. (2019) and Sumarno et al. (2023) showing inconsistencies in the findings. This study aims to enrich the existing body of literature concerning green innovation, environmental disclosure, and firm value by addressing the inconsistencies identified in prior research. Previous studies have produced mixed results regarding the influence of green innovation and environmental disclosure on firm value, highlighting the need for further investigation. In response to these inconsistencies, this study proposes that good corporate governance serves as a moderating variable that may strengthen the relationship between green innovation, environmental disclosure, and firm value. To provide a more

comprehensive and updated analysis, this study incorporates improvements in research models, measurement methods, research objects, and observation periods. Based on these considerations, the present research is conducted under the title: *The Moderating Role of Good Corporate Governance in the Relationship Between Environmental Disclosure and Green Innovation on Firm Value*.

LITERATURE REVIEW

Firm Value

Firm value is defined as the financial worth attributed to a company during an acquisition or as a reflection of the market's confidence in the company's current operational performance and future prospects. It is assessed primarily through the objective of maximizing shareholder wealth. An increase in firm value in alignment with expected outcomes is considered a significant accomplishment, as it directly contributes to enhancing shareholder welfare. This responsibility lies with managers, who are entrusted by investors to manage corporate operations effectively. Investors tend to favor firms that exhibit strong performance indicators. The value of a firm whether nominal, market, intrinsic, book, or liquidation is generally perceived more positively when there is strong investment interest in the company's equity (Aprilya & Marrung, 2025). Firm value serves as an important indicator for assessing a company's overall condition, as it reflects whether the company's value is experiencing growth or decline. Prospective investors are more likely to consider investing in firms that demonstrate strong and stable performance. The evaluation of firm value enables the assessment of key financial components, such as the market value of equity, the book value of total

debt, and the book value of total equity. One commonly used metric for measuring firm value is Tobin's Q ratio. This ratio offers insights into various corporate activities, including cross-sectoral differences in investment decision-making and the relationship between managerial ownership and firm value (Kusuma & Nuswantara, 2021).

$$Tobin's\ Q = \frac{Total\ Shares\ Outstanding \times closing\ price + total\ debt}{Total\ Asset}$$

Environmental Disclosure

Environmental disclosure is a form of corporate responsibility in providing information related to the impact of its operational activities on the environment. This information is typically presented in annual reports or sustainability reports and covers aspects such as waste management, energy efficiency, carbon emissions, and environmental conservation programs. The primary goals of environmental disclosure are to increase transparency, build public trust, and demonstrate a company's commitment to sustainable business practices (Setiawan et al., 2024). In environmental disclosure, which has a significant impact on company value, especially in the agricultural sector, as investors increasingly consider sustainability factors in investment decisions and find that energy sector companies actively engaged in environmental disclosure tend to have a more positive image in the eyes of the public and stakeholders because it demonstrates compliance with environmental regulations (Istiningrum, 2023). In environmental disclosure, it can be a moderating variable between financial performance and company value. This means that even if a company has good financial performance, its value can increase further if accompanied by transparency in environmental, social, and governance (ESG) management, contributing to the enhancement of the

mining company's reputation and competitiveness in Indonesia (Alauddin et al., 2024). In general, these various studies indicate that environmental disclosure not only serves as a tool for communicating social responsibility but also holds strategic value for the sustainability and enhancement of company value, and is an important indicator for investors in assessing the long-term risk and sustainability of a company.

Green Innovation

Green innovation can be understood as a manifestation of legitimacy theory, as external pressures from various stakeholders including regulators, consumers, and the wider community have increasingly compelled firms to demonstrate accountability for the environmental impacts of their operations. In response to these growing demands, companies are driven to implement strategic initiatives, such as investing in environmentally sustainable practices and developing eco-friendly products. These actions are not only aimed at fulfilling regulatory and societal expectations but also at maintaining the legitimacy and long-term viability of the business. Companies have come to recognize that consumer preferences are shifting toward products that are environmentally responsible, even if such products are offered at a premium price. This change in consumer behavior further incentivizes firms to prioritize green innovation as a key component of their strategic and operational agenda (Damas & Tarisa, 2022). Green innovation serves as a strategic instrument for achieving long-term sustainability, offering businesses the means to enhance productivity, improve financial performance, increase profitability, and strengthen competitive

advantage. It encompasses both hardware and software innovations related to environmentally friendly processes and products. This includes technological advancements such as energy-efficient solutions, pollution prevention methods, waste recycling systems, green product design innovations, and environmental management practices (El-kassar & Kumar, 2019)

Good Corporate Governance

Good corporate governance (GCG) refers to the rules and standards of organizations in the economic sphere that direct corporate governance. GCG regulates the actions of company owners, directors, and management, including details of their duties, authorities, and responsibilities to stakeholders (Samhadi et al., 2024). Good Corporate Governance (GCG) is a system that regulates and controls a company to create added value for all stakeholders. The main principles of GCG include transparency, accountability, responsibility, independence, and fairness in strengthening investor trust and improving the company's long-term performance because management decisions become more transparent and accountable (Muliawan, 2018). Meanwhile, GCG serves as an internal control mechanism to minimize managerial risks and maintain organizational stability. With the implementation of GCG, companies are able to create an effective oversight system for management, drive operational efficiency, and enhance a positive image in the eyes of investors and the public. Therefore, the implementation of good governance not only provides economic benefits but also strengthens the social and ethical aspects of companies in the modern business era GCG has been found to play an

important role in strengthening the relationship between management and capital owners through information disclosure and ethical responsibility in every business decision (Hasanah, 2021). In implementing good governance in Indonesia, there are still challenges, such as weak law enforcement and an organizational culture that is not fully oriented toward transparency. However, with increasing corporate awareness of the importance of GCG, many organizations are beginning to strengthen their board of commissioners, internal audit, and public reporting mechanisms as steps to increase investor confidence and create a healthy business climate (Muliawan, 2018).

The Effect of Environmental Disclosure on Firm Value

Within the framework of legitimacy theory, every corporate action must be perceived and accepted by society as being aligned with prevailing social values. In other words, a company's activities are considered legitimate when they are consistent with societal expectations and norms. This perspective emphasizes that firms do not solely prioritize shareholder interests but also consider the concerns of a broader range of stakeholders. The extent of environmental information disclosure commonly referred to as environmental disclosure plays a crucial role in how investors evaluate investment opportunities.

High-quality environmental disclosures often elicit positive responses from investors, which can ultimately contribute to an increase in firm value (Saraswati et al., 2022). The Environmental Score represents a company's performance in managing environmental aspects such as emissions, resource utilization, and innovation. A higher level of reported

environmental performance is generally associated with an increase in firm value. Strong environmental performance enhances the company's public image, contributes to revenue growth, lowers operational costs, and generates positive abnormal stock returns. These outcomes serve as favorable signals to investors, reflecting the company's commitment to sustainability and responsible business practices (Melinda & Wardhani, 2020). Research Wu & Li (2023) shows that environmental practices positively and significantly affect the increase in firm value, with the environmental dimension consisting of three subcategories, namely resource use, emissions, and innovation. This study shows that companies that effectively disclose environmental information have a positive influence on firm value. Based on the explanation of theory and previous research, the researchers propose the following hypothesis:
H1 : Environmental Disclosure has a positive effect on firm value.

The Effect of Green Innovation on Firm Value

Environmentally sustainable production processes contribute to fulfilling legitimacy by minimizing the use of technologies that generate transferable waste and by implementing innovations aimed at recycling production waste to protect the environment. Stakeholder pressure encourages companies to develop eco-friendly products, thereby ensuring legitimacy through the adoption of green innovations that mitigate environmental harm and address the concerns of various societal groups whose quality of life may be affected. By advancing green innovation, companies can signal to investors their commitment to environmental responsibility, enhancing their corporate reputation and generating

economic benefits that offer promising prospects for investors (Li et al., 2020). The integration of green innovation into a company's business strategy fosters investor confidence by demonstrating the company's commitment to corporate sustainability. Green innovation encompasses the development and utilization of environmentally friendly products characterized by low pollution levels, aligning with the expectations of stakeholders. Research Agustia et al. (2019), proves that green innovation affects firm value, the development of green innovation encourages companies to convert production waste into marketable products, thereby increasing firm value. Environmentally friendly products have no effect on firm value because products with eco-friendly elements tend to have expensive raw material costs, thereby increasing the selling price. Green innovation makes companies have an important source of competitive advantage for companies, where these competitive advantages will lead companies to increase Firm Value in the future (Zhang et al., 2020). Based on the explanation of theory and previous research, the researchers propose the following hypothesis:

H2 : Green innovation has a positive effect on firm value.

The Effect of Environmental Disclosure on Firm Value is moderated by Good Corporate Governance

Environmental disclosure offers critical information to investors regarding the company's commitment to transparency in sustainability practices. Firms that effectively communicate their pro-environmental policies exhibit openness, mitigate uncertainty risks, and establish a competitive advantage that can positively affect firm valuation. The economic benefits derived from

expanding social and environmental disclosures are often reflected in the potential appreciation of the company's stock price (Samhadi et al., 2024). The above research is in line with the research Karina & Setiadi (2020), stating that the disclosure of environmental information, when supported by the implementation of robust corporate governance, plays a crucial role in ensuring a favorable response from investors towards sustainability disclosures. Under conditions of effective corporate governance, sustainability disclosures can positively influence firm value through their impact on share prices. Grounded in stakeholder theory and legitimacy theory within the sustainability context, environmental information disclosure serves to demonstrate corporate accountability and transparency to stakeholders, while simultaneously securing legitimacy from the broader society. Consequently, strong corporate governance enhances the effect of environmental information disclosure on firm value, resulting in positive investor reactions. Based on the explanation of theory and previous research, the researchers propose the following hypothesis:

H3 : Environmental Disclosure has a positive effect on firm value. moderated by Good Corporate Governance

The Effect of Green Innovation on Firm Value is moderated by Good Corporate Governance

According to stakeholder theory, good corporate governance represents a company's responsibility toward its stakeholders, particularly investors, by ensuring that corporate performance balances environmental stewardship with obligations to investors in a fair and accountable manner. When effectively implemented, good corporate governance can directly or indirectly

contribute to enhancing firm value (Samhadi et al., 2024). Research Pan (2022), state that the firm value is likely to increase when a company introduces innovations that transform production waste into viable inputs, thereby enhancing resource efficiency and attracting investor interest. Such innovations contribute to the long-term sustainability of the company. However, even with good corporate governance (GCG) in place, the complexity inherent in green innovations—such as technological challenges and market uncertainties—may limit the extent to which GCG can directly moderate their impact on firm value. Good corporate governance does not necessarily expedite the adoption or success of complex green innovations. Although GCG promotes efficiency and sound decision-making, green innovations, particularly in the energy sector, often involve long payback periods and may require several years to yield substantial financial returns. Consequently, the influence of good governance on accelerating the financial benefits of green innovations on firm value may be limited in the short term. Investors seeking rapid returns may remain cautious toward long-term initiatives, even under effective management. Moreover, good corporate governance typically emphasizes fundamental principles such as transparency, accountability, and comprehensive risk management, rather than focusing exclusively on green innovation. In essence, while GCG supports prudent management and organizational stability, its primary concern may lie with overall corporate health rather than the specific advancement of green innovation (Aprilya & Marrung, 2025). Based on the explanation of theory and previous research, the researchers propose the following hypothesis:

H4 : Environmental Disclosure has a positive effect on firm value. moderated by Good Corporate Governance

The Effect of Good Corporate Governance on Firm Value

Previous studies suggest that good corporate governance is one of the essential factors in improving the firm value. According to Sugosha & Artini (2020), good corporate governance is a system applied in managing a company with the main objective of enhancing long-term shareholder value must be balanced with consideration for the interests of all stakeholders. Accordingly, the implementation of sound corporate governance practices can foster an improved business environment and bolster stakeholder confidence, particularly among investors. Corporate governance mechanisms, especially board composition and ownership structure, play a crucial role as determinants of firm value. Prior studies recognize the board of directors as a key internal control mechanism responsible for monitoring managerial opportunism. The board is tasked with ensuring that the firm's operations align with its strategic objectives and that senior management acts in a manner that maximizes shareholder value. Additionally, ownership structure represents a vital component of corporate governance, serving to mitigate agency conflicts within the firm, particularly regarding dividend distribution. Such conflicts often arise between majority and minority shareholders, or between shareholders and management, potentially diminishing firm value. Therefore, a well-defined ownership structure helps to align managerial interests with those of shareholders, thereby reducing agency conflicts and enhancing firm value

(Fatma & Chouaibi, 2021). Based on the explanation of theory and previous research, the researchers propose the following hypothesis:

H5 : Good Corporate Governance has a positive effect on firm value.

Based on the description of the background, objectives, problem formulation, and hypothesis development, the research model proposed by the author is as follows:

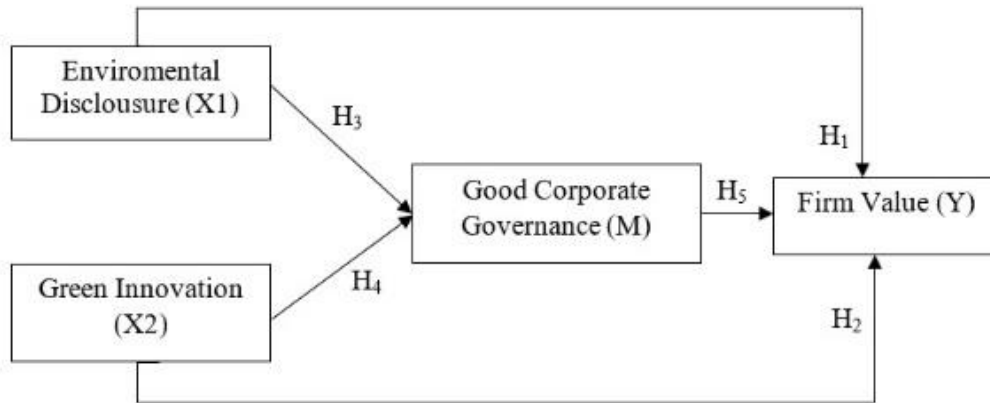


Figure 1. Research Model

RESEARCH METHODOLOGY

This study employs a quantitative method using regression analysis to explore the correlation and influence among variables. The research utilizes secondary data in the form of panel data, which combines time series and cross-sectional data. The secondary data is sourced from the financial reports of property and real estate companies from 2020 to 2024, obtained from the official website of the Indonesia Stock Exchange (IDX) at <https://www.idx.co.id/id>. The data collected over time from multiple entities is used in this study. Panel data refers to observations of several subjects over a certain period. Additionally, this study employs a literature review approach by observing, studying, and directly citing relevant journal articles and books, which serve as the theoretical foundation for this research. The entire

sample consists of 100 observations from 20 companies. The dependent variable in this study is firm value. There are three independent variables used: environmental disclosure (X1), green innovation (X2), and Good Corporate Governance (GCG) as a moderating variable (M). The data analysis method applied in this study is panel data regression, analyzed using EViews 12. The analysis stages include descriptive statistics, model feasibility testing, paired Correlation analysis, normality test, multicollinearity test, heteroscedasticity test, autocorrelation test, F-test, T-test, moderation regression analysis (MRA), and determination coefficient test R-Square (R²).

RESULT AND DISCUSSION

Descriptive Statistical Analysis

In this study, descriptive statistics show the maximum, minimum, mean, and standard deviation values.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm Value	100	0.770000	18.3600	2.241100	3.008151
Environmental Disclosure	100	0.180000	86.9700	59.07440	19.07389
Green Innovation	100	0.142900	1.00000	0.711416	0.195776

GCG	100	0.540000	0.87000	0.728800	0.098219
Valid N (listwise)	100				

Source: *Data Processed EViews 12*

Based on Table 1, firm value has a standard deviation of 3.008151 with a mean value of 2.241100, a maximum value of 18.3600, and a minimum value of 0.77000. The environmental disclosure has a standard deviation of 19.07389 with a mean value of 59.07440, and minimum and maximum values of 0.180000 and 86.9700, respectively. Green innovation has a standard deviation of 0.195776 with an average of 0.728800, and minimum and maximum values of 0.142900 and 1.00000, respectively. Next, GCG has a standard

deviation of 0.098219 with a mean value of 0.728800, and minimum and maximum values of 0.540000 and 0.87000, respectively.

Regression Model Selection

Chow Test

The Chow Test is a panel data test used to determine the best model to use. If the prob value < 0.05, the best estimation to use is fixed effect, and if the prob score > 0.05, the best estimation to use is common effect.

Table 2. Results of the Chow-Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	29.554578	(19,77)	0.0000
Cross-section Chi-square	211.537416	19	0.0000

Source: *Data Processed EViews 12*

Table 2 shows a probability value for the Cross-Section Chi-Square of 0.0000. Based on the test criteria with a Prob. value of 0.0000 < 0.05, it can be concluded that in this model, it is better to use fixed effects because it has a prob value smaller than 0.05. Next, we proceed with the Hausman test.

Hausman Test Results

In determining the model to be used in panel data regression, this test aims to compare the random effect model with the fixed effect model.

Table 3. Results of the Hausman Test

Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.302807	3	0.3473

Source: *Data Processed EViews 12*

Table 3 presents the results of the Hausman Test. Based on Table 4, a probability value of 0.3743 > 0.05 was obtained, leading to the conclusion that the random effects model is used. However, since the Chow test and the Hausman test yield different model estimations, a Lagrange Multiplier test needs to be conducted to determine the

decision regarding which estimation model to use.

Lagrange Multiplier Test

The Lagrange Multiplier test aims to determine the best model between the random effect approach and the common effect approach that should be used in panel data modeling.

Table 4. Results of the Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects	Test Hypothesis
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	Cross-section	Time	Both
Breusch-Pagan	128.1862	0.164680	128.3509
	(0.0000)	(0.6849)	(0.0000)

Sumber: Olah Data EViews 12

Based on the results in Table 4, the LM test for the Common Effect Model with Random Effect yielded a Cross-section probability of 0.000, which is less than 0.05. Therefore, it can be concluded that the model suitable for panel regression is the Random Effect Model. Next, classical assumption tests were conducted.

**Classic Assumption Test
Normality Test**

The Normality Test is used to determine whether the data is normally distributed or not. The criteria for the normal distribution test are that if the Jarque-Bera value and probability > α (0.05), then the data is assumed to be normally distributed.

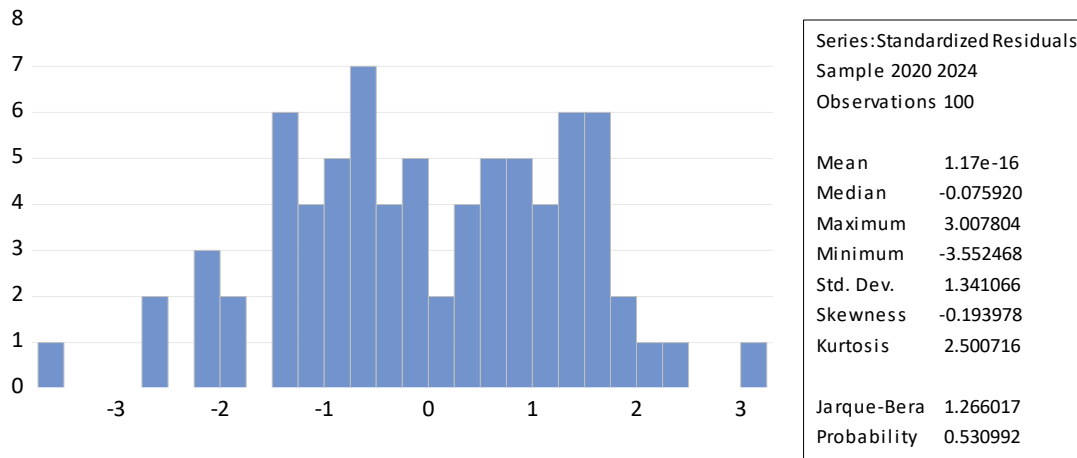


Figure 2. Normality Test

Source: Data Processed EViews 12

Based on Figure 2, the Jarque-Bera Probability value obtained is 1.266017, with a probability of 0.530992. The test results show that the Probability value > α (0.05). Therefore, it can be concluded that the data is normally distributed, so the data is considered to meet the assumption of normal distribution and is

suitable for conducting a panel regression test.

Multicollinearity Test

The multicollinearity test is used to examine the relationship between independent variables. The test criteria assume that multicollinearity does not occur if the centered VIF value < 10.

Table 5. Results of the Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.153270	6.826504	NA
Environmental Disclosure	5.16E-06	2.063482	1.261077
Green Innovation	0.051382	2.385247	1.226996
GCG	0.882523	5.206754	1.031442

Source: Data Processed EViews 12

Based on Table 5, the results of the multicollinearity test obtained VIF values for the environmental disclosure (X1) of 1.261077, green innovation (X2) of 1.226996, and GCG (M) of 1.031442. All independent variables have values less than 10, according to these values, which indicates that the assumption of no multicollinearity is met in this study.

Heteroscedasticity Test

The Heteroskedasticity Test is used to assess the goodness of fit of the regression model. This study employs the Glejser test with residuals as the dependent variable, and if the significance score is more than 5% (0.05), then heteroskedasticity is not found.

Table 6. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.399519	4.385345	-0.775200	0.4401
Environmental Disclosure	-0.023511	0.012056	-1.950226	0.0541
Green Innovation	-0.568684	1.199816	-0.473976	0.6366
GCG	10.20048	5.946939	1.715248	0.0895

Source: Data Processed EViews 12.

Based on Table 6, each variable, namely the environmental disclosure (X1) obtained a probability value of 0.0541, the green innovation (X2) 0.6366 and the GCG (M) 0.0895. The probability values indicate that all variables have values greater than the significance level of 0.05. There is a possibility that this data does not show signs of heteroscedasticity.

Autocorrelation Test

The Autocorrelation test is used to see if there is a correlation between the observed data, which means the appearance of one data point is influenced by other data points. This research uses the Durbin-Watson test for autocorrelation, with the criteria that if $dL < DW < 4-dU$, then there is no sign of autocorrelation.

Table 7. Results of the Autocorrelation Test

Durbin-Watson stat	1.962272
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Source: Data Processed EViews 12

Based on Table 7, the Durbin-Watson value obtained is 1.615250, and the values obtained are $dL = 1.6131$, $dU = 1.7364$, and $4-dU = 2.2636$. Using the test criteria, we obtain $dL < DW < 4-dU$, which is $1.6131 < 1.9622 < 2.2636$. Therefore, it can be concluded that the assumption of no autocorrelation is met in this research.

Panel Regression Analysis

Panel regression analysis is used to analyze regression over a specific period. This analysis is used to determine the environmental disclosure (X1), the green innovation (X2), and the GCG (M).

Table 8. Random Effect Panel Regression Test Results

Dependent Variable: Firm Value				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	-0.927647	0.643225	-1.442182	0.1525
ED (X1)	-0.006167	0.001929	-3.197618	0.0019
GI (X2)	0.190045	0.191901	0.990327	0.3245
GCG (M)	2.278791	0.867176	2.627830	0.0100

Source: Data Processed EViews 12

Here is the regression equation based on table 8:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_4 M + e$$

$$FV = -0.9276 - 0.0061 ED + 0.1900 GI + 2.2787 GCG + e$$

Based on the panel regression equation, it is concluded:

The coefficient value with the dependent variable of firm value (Y) is -0.9276, meaning that if the assumptions of the environmental disclosure (X1), the green innovation (X2) and the GCG (M) are zero, the value of firm value would be -0.9276. The environmental disclosure (X1) has a coefficient value of -0.0061, which means that if the environmental disclosure increases by 1% with the assumption that the green innovation and the GCG are all zero, it will decrease firm value by -0.0061. The green innovation (X2) has a coefficient

value of 0.1900. Which means that if the green innovation increases by 1% with the assumption that the environmental disclosure and the GCG (M) are zero, it will increase firm value by 0.1900. The variable of the GCG (M) has a coefficient of 2.2787. If the GCG increases by 1% and it is assumed that the values of other variables are zero, it will decrease firm value 2.2787.

**Hypothesis Testing
Simultaneous Testing (Uji F)**

The F test, commonly referred to as the simultaneous test, is used to observe the influence of independent variables on the dependent variable collectively. The criterion for the F test is that if the significance value is < 0.05, then the independent variables simultaneously have a significant effect.

Table 9. F-Test Results

F-statistic	4.944466
Prob(F-statistic)	0.003096

Source: Data Processed EViews 12

Based on table 9, the F-statistic value obtained is 4.944466 and the probability is 0.003096. With the test criteria F-statistic > F-table, which is 4.944466 > 3.091, and probability < alpha (5%), which is 0.003096 < 0.05. These results prove that the environmental disclosure (X1), the green innovation (X2) and the GCG (M) have a significant simultaneous effect on firm value in company listed on the Indonesia Stock Exchange.

**Partial Hypothesis Testing (T-test)
and Moderated Regression Analysis (MRA)**

If a probability of < 0.05 is produced, it will be stated that there is a significant implication from the independent variable to the dependent variable. If a probability of > 0.05 is produced, it is said that there will not be a significant effect.

Tabel 10. T-Test Result and MRA

Dependent Variable: Firm_Value

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	-0.927647	0.643225	-1.442182	0.1525
X1	-0.006167	0.001929	-3.197618	0.0019
X2	0.190045	0.191901	0.990327	0.3245
X1→M	0.198093	0.305689	0.648022	0.5185
X2→M	-0.009687	0.003134	-3.090858	0.0026
M	2.278791	0.867176	2.627830	0.0100

Source: Data Processed EViews 12

Based on table 10, the probability value of the environmental disclosure (X1) is $0.0019 < 0.05$, so H1 is accepted and it is concluded that the environmental disclosure has a significant impact on firm value. In contrast, the green innovation (X2) obtained a probability value of $0.3245 > 0.05$, so H2 is rejected and it can be concluded that the green innovation does not have a significant effect on firm value. Next, the interpretation of the results of the regression moderation analysis with GCG as the moderating variable. The probability of the environmental disclosure (X1) on firm value (Y) moderated by the GCG (M) is 0.5185, which is greater than the significance level of 0.05. This means that the GCG (M) is unable to moderate the effect of the environmental disclosure on firm

value, thus H3 is rejected. While, the probability of the green innovation (X2) on firm value (Y) moderated by the GCG (M) is $0.0026 < 0.05$, therefore H4 is accepted, indicating that the GCG (M) is able to moderate the effect of the green innovation (X2) on firm value (Y). Meanwhile, the GCG (M) received a value of $0.0100 < 0.05$, which means there is a significant effect of the GCG variable on the firm value in company in Indonesia, thus H5 is accepted.

Test of the Coefficient of Determination (R^2)

The value of the coefficient of determination (R^2) is used to explain the contribution or the extent of the influence exerted by the independent variable on the dependent variable.

Table 11. Results of the Coefficient of Determination Test (R^2)

R-squared	0.133835
Adjusted R-squared	0.106767

Source: Data Processed EViews 12

Based on Table 11, an R-squared score of 0.133835 was obtained. This means that the contribution of the independent variables of the environmental disclosure (X1), the green innovation (X2) and the GCG (M) to firm value (Y) is 13.38% and the remaining 86.62% is influenced by other variables outside this study.

Discussion The Influence of Environmental Growth on Firm Value

Based on the results of the data analysis, a probability value of the environmental disclosure of $0.0019 < 0.05$ was obtained, thus it can be concluded that the environmental disclosure significantly affects firm value. In line with the research conducted by Abdi et al. (2022), it is stated that the environmental disclosure has a significant impact on firm value. A higher level of environmental disclosure enhances investor perception, which in turn increases the firm's value, as

reflected in a higher stock price. These findings are consistent with the legitimacy theory, which posits that companies gain legitimacy when their operations align with the norms and values upheld by the surrounding community. By providing transparent information regarding their environmental protection efforts and commitment to sustainability, companies can build trust and strengthen their reputation among stakeholders. This enhanced credibility can lead to greater investor interest, ultimately driving up the company's share price. Effective environmental disclosure also helps mitigate reputational and legal risks, while improving access to environmentally conscious capital and markets. The findings of this study suggest that comprehensive environmental disclosure offers not only short-term advantages, such as increased stock valuation, but also contributes to the firm's long-term growth and sustainability (Y. Li et al., 2018).

The Influence of Green Innovation on Firm Value

Based on the results of the data analysis, the green innovation probability value obtained is $0.3245 > 0.05$, so it can be concluded that green innovation does not have a significant impact on firm value. This study is supported by research conducted by Husnaini & Tjahjadi (2021), which states that green innovation does not significantly affect firm value. The implementation of green innovation through the development of environmentally friendly products often entails substantial capital investment. The adoption of new technologies and equipment necessary to produce such products involves high initial costs. Moreover, companies are typically expected to demonstrate returns on these

investments in the form of profit or revenue growth within a short timeframe. However, the market does not always respond immediately to green innovation initiatives through increased share value, particularly when the long-term benefits of such innovations are not readily apparent or are difficult to quantify. The findings of this study do not align with legitimacy theory, which asserts that the relationship between a business entity and its surrounding environment is heavily influenced by societal expectations. Investors tend to assess the extent to which a company is committed to environmental stewardship, which in turn can influence their decisions to invest and thus affect the firm's value. However, the results indicate that green innovation does not significantly impact firm value, suggesting that the high costs and considerable efforts required to develop environmentally friendly products may limit their immediate financial benefits. As a result, these findings do not support the legitimacy theory's proposition that a strong commitment to green products positively influences firm value (Damas et al., 2021).

The Influence of Environmental Disclosure on Firm Value is Moderated by GCG

Based on the results of the data analysis, a moderation test probability value of $0.5185 > 0.05$ was obtained, thus it can be concluded that GCG is unable to moderate the effect of environmental disclosure on firm value. The research conducted by Blesia et al. (2023) which determined that strong GCG is unable to moderate (increase the relationship) between environmental disclosure and firm value. The implementation of corporate governance in Indonesia has not yet succeeded in altering investors' negative perceptions

regarding corporate environmental disclosures. Governance practices have failed to enhance investor confidence in environmental information, which is often viewed as either insignificant or indicative of the company's potential contribution to environmental degradation. Moreover, corporate governance has not effectively reduced the information asymmetry between shareholders and management. Although governance mechanisms have been implemented in compliance with regulations set by the Indonesian capital market authority, the environmental disclosure provided by companies has not led to a shift in investor perception. Consequently, the current application of corporate governance by Indonesian firms has not been sufficient to address or influence investor concerns related to environmental issues, despite the fact that these issues are global in scope and crucial to the future sustainability of businesses. Within this context, environmental disclosure can be viewed as a signaling mechanism through which companies communicate their environmental performance to investors and other stakeholders (Kurniawan et al., 2025). Nevertheless, research indicates that GCG is unable to enhance this signal in relation to its impact on firm value

The Influence of Green Innovation on Firm Value is Moderated by GCG

Based on the results of the data analysis, the moderation test probability value obtained is $0.0026 < 0.05$, so it can be concluded that GCG is able to moderate the effect of green innovation on firm value. The research conducted by Samhadi et al. (2024) found that green innovation have a significant impact on firm value through GCG. This result aligns with stakeholder theory, which views good corporate governance as a means of addressing the interests of all

stakeholders. Its implementation encourages openness to green innovation, improving operational efficiency and sustainability. By meeting the expectations of environmentally conscious stakeholders, companies can enhance long-term value while supporting environmental goals (Susanti & Handayani, 2022). Good corporate governance encompasses several key principles, including transparency and accountability, which require companies to operate in an environmentally responsible manner and in alignment with societal norms. This fosters a positive public reputation. The effective application of good corporate governance through green innovation initiatives can shape investor perceptions, suggesting that strong governance enhances the impact of green innovation on firm value. A well-functioning corporate governance framework entrusts management with the responsibility of ensuring that green innovation strategies and practices align with established environmental standards (Permatasari & Widianingsih, 2020). Information on environmental sustainability must be accounted of management, so that the company environmental practices can be accounted for. This assist interested parties in making informed decisions related to the company environmental conditions.

The Influence of GCG on Firm Value

Based on the results of the data analysis, a GCG probability value of $0.0100 < 0.05$ was obtained, thus it can be concluded that the GCG significantly affects firm value. The research conducted by Suhadak et al. (2019) found that GCG have a significant impact on firm value. Good corporate governance is a system applied in managing a company with the main

objective of increasing shareholder value in the long run while still taking into account stakeholders' interests. Accordingly, the implementation of good corporate governance can enhance the overall business environment and strengthen stakeholder confidence, particularly that of investors. Shareholders hold certain expectations regarding the application of governance practices in manufacturing firms, which is essential for shifting outdated paradigms that rely heavily on other variables to assess company performance. As perceptions improve toward companies practicing strong governance, firm value is likely to increase. Good corporate governance reflects a company's commitment to assuring investors that their capital will be utilized effectively and efficiently. Moreover, good governance plays a critical role in building market credibility and attracting investment, both at the organizational level and within the broader economy. Firms that implement stronger governance practices generally demonstrate higher firm value and possess greater investment opportunities (Kartika, 2021).

CONCLUSION

Based on the research findings and discussion, analyzing the influence of environmental disclosure and green innovation on firm value, moderated by GCG, in companies in Indonesia, the results show that when combined, environmental disclosure, green innovation, and GCG have a significant impact on firm value. However, when looked at individually, only environmental disclosure and GCG have a significant positive effect on firm value. Green innovation on its own does not have a significant influence. When tested as a moderating variable, GCG

was able to strengthen the relationship between green innovation and firm value. However, GCG did not strengthen the relationship between environmental disclosure and firm value. These findings support the ideas of legitimacy theory, which suggests that companies can increase their value and public trust by being transparent about their environmental performance and by adopting green innovations especially when these efforts are supported by strong corporate governance. Practically, this study suggests that companies should pay more attention to green practices and pollution control as part of their business operations to meet environmental expectations. This study has some limitations. One of the main challenges was the difficulty of collecting data. Many manufacturing companies do not publish separate sustainability reports; instead, they combine them with their annual reports. This made it hard to find complete and clear data. Future researchers are encouraged to consider other secondary data sources, such as environmental disclosure databases from independent organizations or third-party providers.

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