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BOARD OF COMMISSIONERS' MODERATING EFFECT ON RISK AND INTELLECTUAL CAPITAL DISCLOSURES TOWARD FIRM VALUE: EMPIRICAL EVIDENCE FROM INDONESIA'S FINANCIAL SECTOR

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Abstract
This study investigates the effect of Enterprise Risk Management Disclosure (ERMD) and Green Intellectual Capital Disclosure (GICD) on firm value, with the moderating role of the Board of Commissioners, in financial sector companies listed on the Indonesia Stock Exchange from 2019 to 2023. Using panel data regression analysis on 185 firm-year observations, the study reveals that ERMD has a significant negative effect on firm value, indicating that such disclosures may be perceived as mere compliance rather than value-enhancing strategies. Meanwhile, GICD shows no significant impact on firm value, suggesting that environmental-related intangible assets are not yet fully recognized by investors. Furthermore, the Board of Commissioners does not moderate the relationship between either ERMD or GICD and firm value, highlighting limited oversight effectiveness in these areas. The findings imply that non-financial disclosures and corporate governance mechanisms in the financial sector have not been fully leveraged to enhance firm performance. This study contributes to the literature on corporate governance and sustainability disclosure in emerging markets.

Keywords: Enterprise Risk Management Disclosure, Green Intellectual Capital Disclosure, Board of Commissioners, Firm Value.

1. Introduction

In today's dynamic global economy, business environments are increasingly characterized by complexity, volatility, and intense competition. Companies are not only required to perform effectively in the marketplace but also to demonstrate transparency, accountability, and sustainability to meet the expectations of a growing and more informed group of stakeholders. One of the key indicators of corporate performance in this context is firm value, which reflects the market's evaluation of a company's prospects, governance, and long-term viability. A higher firm value is often associated with better financial health, superior governance mechanisms, and greater investor confidence, making it a critical objective for both corporate managers and shareholders (Ali et al., 2021; Utomo et al., 2022).

Firm value, which can be understood through various financial and market-based metrics such as Tobin's Q, Price-to-Earnings ratio (P/E), or Economic Value Added (EVA), represents the culmination of internal capabilities and external perceptions. It captures how well a firm can generate future economic benefits and, thus, has significant implications for attracting investments, gaining competitive advantage, and ensuring sustainable growth. The ability of a firm to enhance its value depends on several factors, including risk management practices, intellectual capital, and corporate governance structures.

One internal driver of firm value that has received increasing attention in recent literature is Enterprise Risk Management Disclosure (ERMD). As part of broader corporate transparency and risk governance practices, ERMD refers to the extent to which a company communicates its strategies, processes, and outcomes related to risk identification, assessment, mitigation, and control. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) identifies eight key components in the ERM framework, including internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication, and monitoring (Meizaroh, 2011). These components form the foundation for an integrated risk management system that, when properly disclosed, can signal to investors a company's commitment to sound risk practices and long-term sustainability (Rustiarini, 2012).

Several studies have attempted to empirically examine the relationship between ERMD and firm value, with mixed and often inconsistent results. For instance, Monica (2022) found a positive influence of ERMD on firm value, suggesting that greater transparency regarding risk enhances investor trust and improves market valuation. In contrast, Shofiani (2024) reported a negative relationship, arguing that ERMD in some companies—particularly in the mining sector—might be perceived as a formality rather than a genuine strategic initiative, thereby failing to deliver value to stakeholders. Other studies, such as those by Faizah (2022) and Haryono (2022), found no significant impact, indicating that the effectiveness of ERMD in improving firm value may depend on contextual and organizational factors.

A second factor that may play a critical role in enhancing firm value is Green Intellectual Capital (GIC), a modern concept that integrates environmental concerns into the broader framework of intangible assets. GIC includes three key dimensions: Green Human Capital (knowledge and skills of employees regarding environmental management), Green Structural Capital (organizational infrastructure supporting environmental initiatives), and Green Relational Capital (relationships with stakeholders centered on environmental sustainability) (Chen, 2008; Gracia & Ika, 2018). As environmental awareness becomes a competitive differentiator, companies that actively manage and disclose their green intellectual assets may gain reputation-based advantages, leading to enhanced firm value.

Empirical studies on GIC and firm value also present divergent findings. Islamiah (2023) and Tonay (2022) show that GIC positively affects firm value by signaling environmental responsibility and strategic foresight. Companies that embed green values in their organizational culture and knowledge systems can create long-term stakeholder loyalty and competitive positioning. However, Fransiska (2022) found no significant effect, highlighting those green initiatives, unless fully integrated and effectively communicated, may not translate into measurable financial or market gains.

A critical but often underexplored factor that may influence the effectiveness of both ERMD and GIC in enhancing firm value is the role of corporate governance, particularly the Board of Commissioners (BoC). The BoC is tasked with overseeing management actions, ensuring the company's strategic direction aligns with shareholder interests, and facilitating the implementation of good corporate governance (GCG) practices (Lestari et al., 2020). The size, independence, and effectiveness of the BoC can moderate the impact of risk disclosures and green intellectual initiatives on firm value by ensuring that these practices are not merely symbolic, but are embedded into the company's strategic and operational fabric (Laily, 2019; Khairani, 2019).

From a theoretical perspective, the study draws on Agency Theory and Stakeholder Theory. Agency Theory posits that conflicts between principals (shareholders) and agents (managers) can be mitigated through governance mechanisms, such as active oversight by the BoC (Supriyono, 2018). Stakeholder Theory suggests that companies that align their operations with the interests of various stakeholders—such as customers, suppliers, regulators, and communities—can achieve long-term value creation (Freeman, 1984). Both ERMD and GIC are manifestations of a company's response to agency and stakeholder demands, and their effectiveness may be contingent upon governance quality.

Despite the growing body of literature, several research gaps remain. First, most studies examine ERMD and GIC independently, without considering their combined or interactive effects on firm value. Second, the moderating role of the BoC has not been adequately investigated in the context of these two disclosures, particularly in emerging markets like Indonesia, where governance practices and investor behaviors may differ from those in developed economies. Third, sector-specific dynamics—such as those in the financial sector—are often overlooked, despite the unique risk exposures and regulatory expectations in such industries.

Additionally, real-world corporate cases, such as the financial reporting controversy at PT Bukalapak Tbk, highlight the importance of accurate disclosure and governance oversight. The company's dramatic shift from reported losses to unexpected profits raised concerns among investors and regulators regarding the reliability of its financial statements and the integrity of its governance mechanisms (CNBC Indonesia, 2022). This case underscores the practical significance of studying ERMD and GIC within the context of corporate governance and firm value.

2. Theoretical Background

2.1 Agency Theory

Agency theory, first developed by Jensen and Meckling (1976), explains the contractual relationship between principals (shareholders) and agents (managers), wherein the principals delegate decision-making authority to the agents. The fundamental assumptions of this theory, as discussed by Eisenhardt (1989), include the notions that human beings are self-interested, risk-averse, and boundedly rational. These behavioral traits often lead to a divergence of objectives between the two parties, thereby giving rise to agency problems.

In a corporate context, managers may not always act in the best interests of shareholders, leading to opportunistic behaviors, such as earnings manipulation or misallocation of resources. Such practices can ultimately reduce the quality of earnings, damage investor trust, and lower firm value (Khairani, 2019). The separation of ownership and control is particularly pronounced in large firms, where shareholders may find it challenging to monitor managerial decisions directly. Consequently, agency theory advocates for the implementation of governance mechanisms—such as active oversight by the board of commissioners—to mitigate agency conflicts.

Agency theory is particularly relevant in explaining the necessity of transparent risk disclosures (ERMD) and the oversight role of the board of commissioners. By providing comprehensive disclosures and establishing a strong governance structure, firms can align managerial actions with shareholder interests, thereby enhancing corporate value.

2.2 Signaling Theory

Signaling theory, originally proposed by Spence (1973), posits that corporate disclosures serve as signals to the market. In situations characterized by information asymmetry, where internal stakeholders (e.g., managers) possess more information than external stakeholders (e.g., investors), firms can issue signals—such as risk disclosures, green initiatives, and intellectual capital reports—to convey their quality and future prospects.

Effective signals reduce uncertainty and information asymmetry, thereby enabling investors to make more informed decisions. Positive signals, such as well-documented ERM practices or a demonstrated commitment to sustainability through GIC, can enhance investor confidence and, in turn, raise stock prices and firm value (Nguyen, 2018; Irawan & Apriwenni, 2021).

The relevance of signaling theory in this study lies in its explanatory power regarding how ERMD and GICD influence investor perceptions. Companies that are proactive in disclosing risk management strategies and green intellectual assets may be perceived as more competent, responsible, and forward-thinking, thereby attracting long-term investors.

2.3 Firm Value

Firm value reflects the market's perception of a company's overall performance and future prospects, often proxied by stock price (Gitman, 2006). A higher firm value indicates greater shareholder wealth and public trust (Husnan, 2004; Ayu & Suarjaya, 2018). It also serves as a key indicator of managerial effectiveness in utilizing company resources (Indrarini, 2019).

According to Fama (1978), firm value is determined by the forces of supply and demand in the capital market, and it reflects investor confidence in the firm's operations and sustainability. One widely used measure of firm value is Economic Value Added (EVA), introduced by Stern Stewart & Co., which assesses whether a company generates returns exceeding its cost of capital (Fahmi, 2011; Brigham et al., 2015). A positive EVA indicates value creation for shareholders, while a negative EVA suggests performance deterioration.

Therefore, maximizing firm value is the ultimate objective of a company, as it captures both current performance and future growth potential (Hardiyanti, 2012; Damas et al., 2021).

2.4 Enterprise Risk Management Disclosure

Enterprise Risk Management (ERM) disclosure refers to the company's communication of risk-related information in financial statements and reports, as a form of accountability to stakeholders (Suwardjono, 2014). ERM encompasses processes used to identify, assess, respond to, and monitor risks that affect the achievement of organizational objectives (Devi et al., 2017). Based on COSO's ERM framework, the disclosure includes eight dimensions:

1) Internal Environment: Organizational attitudes toward risk.
2) Objective Setting: Establishing goals prior to risk identification.
3) Event Identification: Recognizing internal/external events affecting goals.
4) Risk Assessment: Evaluating risks based on likelihood and impact.
5) Risk Response: Choosing responses (avoid, accept, reduce, share).
6) Control Activities: Implementing policies to address risks.

7) Information & Communication: Ensuring relevant risk info flows effectively.
8) Monitoring: Ongoing evaluation and improvement of ERM processes.

ERM disclosures are typically measured using content analysis, based on a checklist of 108 items derived from COSO's dimensions (Meizaroh, 2011), using a dichotomous unweighted scale (1 = disclosed, 0 = not disclosed). Sunaryo (2010) outlines ERM in three stages: risk identification, risk measurement, and risk management. ERM disclosure communicates how risks are managed, contributing to stakeholder decision-making and sustainable competitive advantage. In Indonesia, regulatory frameworks such as Bapepam-LK Rule No. Kep–431/BL/2012 mandate companies to disclose risk factors and management efforts in their annual reports. These rules are more stringent for financial institutions compared to manufacturing firms.

2.5 Green Intellectual Capital Disclosure

Green Intellectual Capital Disclosure (GICD) refers to intangible assets that encompass knowledge, innovation, experience, and relationships related to environmental protection, both at the individual and organizational levels (Chen, 2008). GIC is considered a source of sustainable competitive advantage that can enhance corporate performance through environmentally friendly approaches (Widyastuti, 2021). Chen (2008) classifies GIC into three main components:

1) Green Human Capital – Environmental awareness, skills, and commitment of the company's human resources.
2) Green Structural Capital – Organizational systems, policies, and infrastructures that support green practices.
3) Green Relational Capital – External relationships with stakeholders within the context of sustainability.

GIC is measured using content analysis with an unweighted dichotomous scoring system (1 if disclosed, 0 if not). The disclosure index consists of 18 items: 5 for green human capital, 8 for green structural capital, and 5 for green relational capital (Chen & Hung, 2014). Many companies have incorporated GIC into their business strategies, recognizing its importance in achieving sustainability goals and improving corporate image. This integration aligns with growing stakeholder expectations on environmental responsibility and positions the firm as a proactive entity in sustainable development (Chang, 2012; Ramadhani & Amin, 2023; Chaudhry et al., 2016).

2.6 Board of Commissioners

According to the Circular Letter of the Indonesian Financial Services Authority (OJK) No. 16/SEOJK.05/2014, the Board of Commissioners is a corporate body responsible for supervision and advisory functions in accordance with regulations on limited liability companies, or their equivalents in cooperative or joint business structures. From a corporate governance perspective, the primary role of the board is to ensure that management operates the company in an appropriate manner to achieve its goals (Lukviarman, 2016).

The Board of Commissioners oversees the operations of the entity to ensure alignment with corporate objectives (Lestari et al., 2020). Prior studies have found a positive relationship between the number of commissioners and firm value (Khairani, 2019). The board plays a critical role in guiding and monitoring corporate leadership (Amaliyah & Herwiyanti, 2019).

The effectiveness of oversight and managerial monitoring is strengthened by the existence of an active Board of Commissioners. In this study, board proportion is proxied by the percentage representation of commissioners in the firm (Thesarani, 2017). A larger board size enables more effective supervision, thus reducing the potential for managerial misconduct (Raharjo & Daljono, 2014).

An independent commissioner is defined as one who has no financial, managerial, shareholding, or familial ties with other board members, directors, or controlling shareholders—ensuring impartial judgment (Dahlia, 2018). The Board of Commissioners plays an essential role in promoting good corporate governance practices, encompassing both internal and independent board members (Agus, 2016). Increasing the number of commissioners enhances supervisory effectiveness and contributes positively to firm value.

2.7 Hypothesis Development

2.7.1 The Effect of Enterprise Risk Management Disclosure on Firm Value

Enterprise Risk Management (ERM) disclosure reflects the company's commitment to managing internal and external risks comprehensively. According to Solikhah (2019), a strong ERM system not only enhances internal control but also increases the accuracy of strategic and operational decisions, contributing to better financial outcomes. Furthermore, ERM provides a structured framework to identify, assess, and mitigate risks, aligning risk appetite with strategic goals.

Uyar and Kilic (2012) emphasize the importance of transparent disclosure to reduce agency costs and improve investor confidence. From an agency theory perspective, ERM disclosure serves as a monitoring tool to align the interests of managers and shareholders. This transparency reduces information asymmetry and reassures stakeholders about the firm's risk handling capabilities, positively impacting firm valuation.

Empirical findings by Devi et al. (2017) and Shofiani (2022) confirm a positive relationship between ERM disclosure and firm value. ERM disclosures are positively perceived by the market as a signal of managerial accountability and resilience. However, contrasting findings by Deffi et al. (2020) and Cristofel & Kurniawati (2021) suggest that detailed risk disclosures might inadvertently highlight firm vulnerabilities, thereby diminishing investor confidence and reducing firm value.

H1: Enterprise Risk Management disclosure has a positive effect on firm value.

2.7.2 The Effect of Green Intellectual Capital Disclosure on Firm Value

Green Intellectual Capital Disclosure (GICD) refers to the intangible environmental knowledge assets embedded within an organization, encompassing green human capital, green structural capital, and green relational capital (Chen, 2008). These components reflect an organization's innovation, expertise, and commitment to environmental sustainability.

According to Ramadhani & Amin (2023), GIC is instrumental in achieving environmental performance, enhancing resource management, and creating competitive advantage. Firms that incorporate GIC into their strategies can lower operational costs, increase efficiency, and improve market perception.

Empirical studies by Augustine & Dwianika (2019), Mega (2023), and Tonay (2022) affirm that GIC has a positive and significant effect on firm value. Firms with strong GIC practices tend to attract environmentally conscious investors and consumers, thereby increasing profitability and shareholder value.

However, Fransiska (2022) finds no significant relationship between GIC and firm value, indicating that the market may not fully recognize the impact of intangible green assets, or such effects may be indirect and long-term in nature.

H2: Green Intellectual Capital disclosure has a positive effect on firm value.

2.7.3 The Moderating Role of the Board of Commissioners on the Relationship Between ERM Disclosure and Firm Value

The board of commissioners plays a vital role in corporate governance by overseeing management and ensuring that firm strategies are aligned with shareholder interests. According to Fama and Jensen (1983), effective boards contribute to strategic decision-making and risk oversight.

In the context of ERM disclosure, the board of commissioner's functions as a monitoring and advisory body, strengthening risk governance and enhancing the credibility of risk disclosures. This aligns with signaling theory, where signals from firms with strong boards are perceived as more credible, reducing information asymmetry (Khairani, 2019).

Empirical findings (Maharani, 2022) suggest that a strong board enhances the effectiveness of ERM disclosures, thereby increasing firm value. Thus, the board of commissioners is expected to moderate the impact of ERM disclosure on firm value.

H3: The board of commissioners moderates the relationship between Enterprise Risk Management disclosure and firm value in a positive direction.

2.7.4 The Moderating Role of the Board of Commissioners on the Relationship Between GIC Disclosure and Firm Value

The implementation and disclosure of GIC require strong internal support and strategic direction. The board of commissioners can act as a catalyst in ensuring that green intellectual initiatives are effectively integrated into corporate strategy and reporting.

Green Intellectual Capital Disclosure (GICD) is not only a managerial concern but also a governance issue. The involvement of the board enhances institutional legitimacy and signals the firm's environmental commitment to stakeholders (Ramadhani & Amin, 2023). According to institutional theory, external stakeholders evaluate firm behavior based on governance alignment with broader societal expectations.

Therefore, the board's active role is expected to strengthen the effect of GIC disclosure on firm value by reinforcing the credibility and strategic relevance of such disclosures.

H4: The board of commissioners moderates the relationship between Green Intellectual Capital disclosure and firm value in a positive direction.

3. Methods

3.1 Data Analysis Method

This study employs panel data combining cross-sectional and time-series data for financial sector companies listed on the Indonesia Stock Exchange (IDX) during 2019–2023. The data were analyzed using panel data regression analysis with the assistance of EViews version 12, aiming to assess the effect and significance of the independent variables on the dependent variable.

3.1.1 Panel Data Regression Model

The panel regression model used in this study is formulated as follows:

$$Yit = \alpha + \beta 1ERMDit + \beta 2GICDit + \beta 3DKit + \beta 4(ERMDit \times DKit) + \beta 5(GICDit \times DKit) + \epsilon it$$

Where:
Yit = Firm Value (EVA) of company *i* in year *t*
ERMDit = Enterprise Risk Management Disclosure
GICDit = Green Intellectual Capital Disclosure
DKit = Board of Commissioners
α = Intercept
β1−β5 = Regression coefficients
ϵit = Error term

3.1.2 Model Selection Procedure

To determine the most appropriate model for panel regression analysis, the following tests are performed:

1) Chow Test: to decide between the Pooled Least Square (PLS) and Fixed Effect Model (FEM).
2) Hausman Test: to choose between Fixed Effect Model (FEM) and Random Effect Model (REM).
3) Lagrange Multiplier (LM) Test: to determine whether to use Pooled Least Square (PLS) or Random Effect Model (REM) when the Chow test suggests PLS.

The chosen model will be the one that best fits the data based on these statistical tests.

3.1.3 Classical Assumption Tests

Before interpreting the regression results, several classical assumption tests are conducted to ensure the validity of the model:

1) Multicollinearity Test: To detect high correlation among independent variables using Variance Inflation Factor (VIF).
2) Heteroscedasticity Test: To identify unequal variance of residuals, using Glejser or White test.
3) Autocorrelation Test: To detect serial correlation in residuals, using the Durbin-Watson (DW) statistic.
4) Normality Test: To test whether residuals are normally distributed using Jarque-Bera test.

3.2 Operational Variables

Table 1. Operational Definition of Research Variables

No	Variable	Measurement	Scale
1	Firm Value	EVA = NOPAT – (Capital Invested × Cost of Capital)	Ratio
2	Enterprise Risk Management Disclosure	ERMDI = $\frac{\sum ijiDitem}{\sum ijADitem}$	Nominal
3	Green Intellectual Capital Disclosure	GIC Index = $\frac{\sum iiii\ jDitem}{\sum ijADitem}$	Nominal
4	Board of Commissioners	Board of Commissioners = Total Number of Board Members	Ratio

Source: Compiled from various references

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4. Results and Discussion

4.1 Descriptive Statistical Test

Table 2. Descriptive Statistical Test Results

	EVA	ERMD	GICD	DK
Mean	25.38520	-0.442447	-0.586208	0.755294
Median	26.05832	-0.433636	-0.492476	0.750000
Maximum	30.86244	-0.087011	-0.117783	0.909091
Minimum	14.74540	-0.993252	-1.504077	0.500000
Std. Dev.	3.020582	0.157364	0.299358	0.098447
Observations	185	185	185	185

Source: data processed by researchers, 2025

Table 2 presents the descriptive statistics results based on a sample of 37 companies observed over the 2019–2023 period. The sampling method employed was purposive sampling. The total number of observations is 185, derived from 37 companies multiplied by the 5-year observation period. The descriptive analysis results reveal the following insights when comparing the dependent and independent variables:

1) Firm Value recorded a minimum of 14.74540 (PT Fuji Finance Indonesia Tbk, 2023) and a maximum of 30.86244 (PT Bank Negara Indonesia Tbk, 2022), with a mean of 25.38520 and standard deviation of 3.020582. Since the mean is higher than the standard deviation, the data distribution tends to concentrate on higher firm values.
2) Enterprise Risk Management Disclosure ranged from 0.370370 (PT Bank Bumi Arta Tbk, 2019) to 0.916667 (PT Indoritel Makmur Internasional Tbk, 2022), with a mean of 0.650150 and standard deviation of 0.097851, indicating relatively high and consistent disclosure.
3) Green Intellectual Capital Disclosure ranged between 0.222222 (PT Bank MNC Internasional Tbk, 2019) and 0.888889 (PT Bank Ganesha Tbk, 2023), with a mean of 0.579580 and standard deviation of 0.154302. The data suggest a tendency toward higher GIC disclosure levels.
4) Board of Commissioners ranged from 0.5 to 0.909091, with a mean of 0.755294 and standard deviation of 0.098447. The values indicate strong governance practices among firms, with data concentrated toward higher proportions.

4.2 Panel Data Regression Test

Table 3. Conclusion of Panel Data Regression Test

No	Method	Test Comparison	Result
1	Chow Test	Common Effect vs Fixed Effect	Fixed Effect Model
2	Hausman Test	Fixed Effect vs Random Effect	Fixed Effect Model
3	Lagrange Multiplier Test	Common Effect vs Random Effect	Random Effect Model

Source: data processed by researchers, 2025

Based on the table above, it can be concluded that the results of the Chow test for the panel data model are better using the Fixed Effect Model (FEM) panel data and the results of the Hausman test for the panel data model also show that the Fixed Effect Model (FEM) is better and the Lagrange Multiplier (LM) test for the panel data model is the Common Effect Model (CEM), so the hypothesis testing in this study is better using the Fixed Effect Model (FEM).

4.3 Normality Test

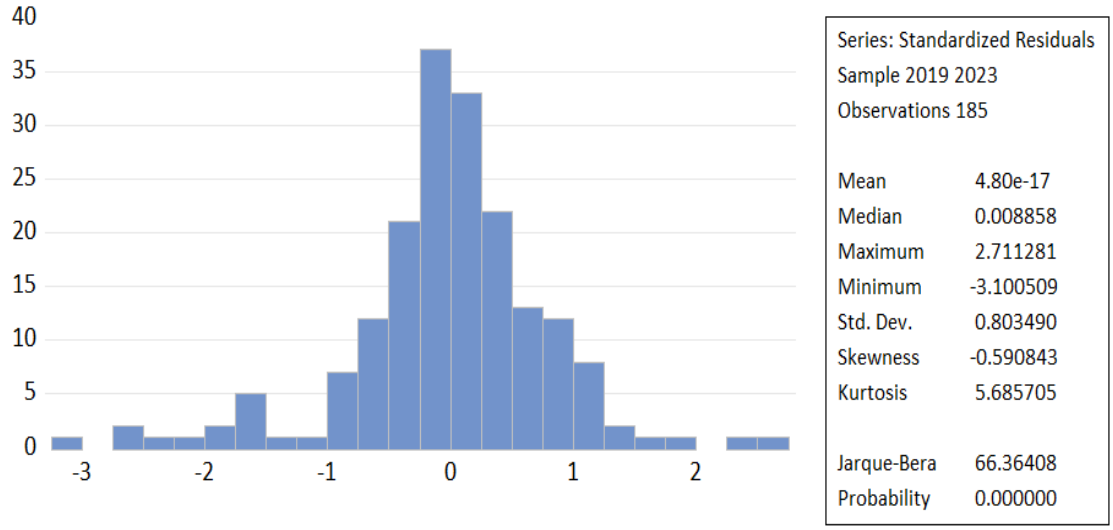

Figure 1. Normality Test Result

Based on Figure 1, According to Gujarati (2011) if the selected model is a Random Effect Model (REM) or Fixed Effect Model (FEM) then the normality test does not have to be met. It is known that the probability value of the Jarque Bera statistic is 0.000000 because this probability value is smaller than the 0.05 significance level, it can be concluded that the residual data is not normally distributed.

4.3 Multicollinearity Test

Table 4. Multicollinearity Test Results

	Enterprise Risk Management Disclosure (ERMD)	Green Intellectual Capital Disclosure (GICD)
Enterpirse Risk Management Disclosure (ERMD)	1.000000	0.496789
Green Intellectual Capital Disclosure (GICD)	0.496789	1.000000

Source: data processed by researchers, 2025

Based on the results of the multicollinearity test in Table 4.10, it can be concluded that there are no symptoms of multicollinearity between the independent variables. From the output results in the table, the correlation between ERMD and GICD is 0.496789. An indication of multicollinearity occurs if the correlation coefficient between each variable is greater than 0.80. Therefore, it can be concluded that there is no high correlation between the independent variables, so that in this study there is no multicollinearity.

4.4 Heteroscedasticity Test

Table 5. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERMD	-1.091602	0.975765	-1.118713	0.2647
GICD	0.585465	0.512930	1.141413	0.2552

Source: data processed by researchers, 2025

Based on the results of the Glejser test in Table 5, it is known that all probability values (Prob.) of the variables studied are above 0.05. The probability value for variable X1 is 0.2647 and for variable X2 is 0.2552 because all probability values are greater than the 0.05 significance level, it can be concluded that there is no heteroscedasticity in this regression model.

4.5 Autocorrelation Test

Table 6. Autocorrelation Test Result

Test Statistic	Value	Decision Rule	Conclusion
Durbin-Watson Statistic	2.0261	DW ≈ 2 indicates no autocorrelation	No autocorrelation detected

Source: data processed by researchers, 2025

Based on the results of the Autocorrelation test using the Durbin Watson test (DW Test) it gives a DW value of 2.026141, this value will be compared with the DW Table with the number of observations 185, the number of independent variables 2 with a confidence level of 5%, the value of Du = 1.82 is obtained, the condition for no autocorrelation is du < d < 4 - du then the value of 1.82 < 2.026141 < 4 - 1.82 or 1.82 < 2.026141 < 2.18 then it is stated that no autocorrelation occurs.

4.6 Model Feasibility Test Results (F Statistical Test)

Table 7. Results of Simultaneous Significance Test (F Statistical Test)

Indicator	Value	Interpretation
F-statistic	47.2771	Model is statistically significant
Prob(F-statistic)	0.0000	p-value < 0.05 confirms model significance

Source: data processed by researchers, 2025

The output results of table 7 above show that Prob. (F-Statistic) for all models shows a value of 0.000000 meaning the probability value is smaller than the significance of 0.05 df1 (k=1) = (4-1) = 3 and df2 (n-k) = (185-4) = 181 obtained Ftable = 2.65 thus Fcount > Ftable (47.27709 > 2.65), it can be concluded in this study that the variables of enterprise risk management disclosure and green intellectual capital disclosure simultaneously have a significant effect on the company value variable with the board of commissioners as a moderating variable.

4.7 Coefficient of Determination (Adjusted R2)

Table 8. Results of the Coefficient of Determination Test (Adjusted R2)

Indicator	Value	Interpretation
R-squared	0.9292	The independent variables explain 92.92% of the variation in the dependent variable
Adjusted R-squared	0.9096	Adjusted for number of predictors; confirms strong explanatory power

Source: data processed by researchers, 2025

The output results in table 8 above show an Adjusted R Squared value of 0.909586, which means that 90.95% of the company's value can be explained by the variables of Enterprise Risk Management Disclosure, Green Intellectual Capital Disclosure and the Board of Commissioners studied, while 9.05% is explained by other variables outside the study.

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4.8 Hypothesis Testing

Table 9. Hypothesis Testing Results (t-Test) – Before and After Moderation

Variable	Model without Moderation			Model with Moderation		
	Coefficient	t-Statistic	p-Value	Coefficient	t-Statistic	p-Value
C	24.6627	77.6969	0.0000	20.8120	11.0500	0.0000
ERMD	-1.5871	-1.9252	0.0562	-5.4391	-2.3722	0.0190
GICD	-0.0347	-0.0761	0.9395	0.8948	0.6079	0.5442
ERMD_DK	-	-	-	7.5722	1.7606	0.0804
GICD_DK	-	-	-	-2.3731	-0.6494	0.5171

Notes:
- Significance level used: α = 0.05.
- Values in bold (if p < 0.05) indicate statistically significant results.
- The inclusion of moderating variables (ERMD_DK and GICD_DK) slightly altered the significance of ERMD but did not render the interaction terms significant at the 5% level.
- The ERMD variable becomes statistically significant (p = 0.0190) after moderation, indicating a stronger direct effect, but moderation effect (ERMD_DK) itself is only marginally significant.

The results of the table above after conducting regression using the Fixed Effect Model (FEM) before moderation, the regression equation obtained in this study is as follows:

$$Y = a + \beta 1X1 + \beta 2X1 + \beta 3X1*Z + \beta 4X1*Z + e$$

NP = 20.81200 - 5.439110 ERMD + 0.894847 GICD + 7.572177 ERMD*DK - 2.373113 + e

The results of this equation can be interpreted as follows:

1) The constant value obtained is 20.81200, which means that if the independent variable is zero (0), then the company's value is 20.81200, and vice versa.
2) The regression coefficient obtained is -5.439110, which is negative. This means that each increase in enterprise risk management disclosure will decrease the company's value by 5.439110, and vice versa.
3) The regression coefficient obtained is 0.894847, which is positive. This means that each increase in green intellectual capital disclosure will increase the company's value by 0.894847, and vice versa.
4) The regression coefficient value of ERMD_DK, which represents the interaction between enterprise risk management disclosure and the board of commissioners, is -7.572177, which is positive. This means that each increase in ERMD_DK will increase the company's value by 7.572177, and vice versa.
5) The regression coefficient value of GICD_DK, which is the interaction between green intellectual capital disclosure and the board of commissioners, is obtained at -2.373113 and has a negative value. This means that every increase in GICD_DK will decrease the company's value by 2.373113 and vice versa.

4.9 Discussion

4.9.1 Effect of Enterprise Risk Management Disclosure on Firm Value

The analysis reveals that Enterprise Risk Management Disclosure (ERMD) has a significant negative effect on firm value, with a p-value of 0.0190, which is below the 5% significance level. This finding suggests that, contrary to expectations, greater disclosure of risk management practices does not enhance firm value in the financial sector in Indonesia. Instead, it may signal potential risks or inefficiencies, thus reducing investor confidence.

This result contradicts signaling theory, which posits that increased disclosure should serve as a positive signal to the market. The negative impact may stem from the perception that ERMD is a compliance-driven activity rather than a reflection of actual risk mitigation efforts. This interpretation aligns with Debby (2014) and Dewi (2024), who argued that ERMD practices are often viewed by investors as non-value-adding disclosures, particularly when they lack depth or are not integrated into strategic decision-making. Hence, investors may not use ERMD as a primary input in valuation or investment decisions.

4.9.2 Effect of Green Intellectual Capital Disclosure on Firm Value

The regression results indicate that Green Intellectual Capital Disclosure (GICD) does not significantly affect firm value, with a p-value of 0.5442 (> 0.05). This implies that the extent of environmental-related intellectual capital disclosed by firms is not yet a determinant of firm value in the eyes of investors.

Although GICD is considered to reflect environmental innovation and sustainable practices, its limited recognition by the market could be attributed to the absence of standard reporting frameworks, low awareness among stakeholders, and the intangibility of such disclosures. This finding supports Fransiska (2022) and Roscoe et al. (2019), who noted that intangible assets like green intellectual capital are often undervalued or overlooked in capital markets, especially in emerging economies. Moreover, the relatively nascent implementation of green strategies in financial firms may also explain the weak association with firm value.

Moderating Effect of the Board of Commissioners on the ERMD–Firm Value Relationship

The interaction term between the Board of Commissioners and ERMD does not show a significant moderating effect ($p = 0.0804 > 0.05$). This suggests that the presence or proportion of commissioners in the firm does not significantly strengthen or weaken the relationship between ERMD and firm value.

One plausible explanation is that governance roles of the board are not yet fully optimized to oversee or enhance the effectiveness of risk management disclosures. It is possible that boards in many firms still focus on compliance oversight rather than strategic guidance, limiting their influence on how ERMD contributes to firm performance.

4.9.3 Moderating Effect of the Board of Commissioners on the GICD–Firm Value Relationship

Similarly, the interaction between the Board of Commissioners and GICD is statistically insignificant ($p = 0.5171 > 0.05$). This indicates that the Board of Commissioners does not moderate the relationship between green intellectual capital disclosure and firm value.

This result may reflect the lack of integration of sustainability-related matters into board agendas. The board's involvement in environmental issues may be formal or passive, without substantial influence on the firm's strategic positioning regarding green intellectual capital. Consequently, even in the presence of a well-structured board, the potential value of GICD remains unleveraged.

5. Conclusion

This study aims to examine the moderating role of the Board of Commissioners on the relationship between Enterprise Risk Management Disclosure (ERMD), Green

Intellectual Capital Disclosure (GICD), and firm value among financial sector companies listed on the Indonesia Stock Exchange for the period 2019–2023. Based on the regression analysis and hypothesis testing, the following conclusions can be drawn:

1) Enterprise Risk Management Disclosure has a statistically significant negative effect on firm value. This finding contradicts the signaling theory, which posits that the disclosure of risk management practices should provide a positive signal to investors. However, in this context, ERMD appears to function more as regulatory compliance rather than a strategic factor influencing investor perception and firm valuation.
2) Green Intellectual Capital Disclosure does not significantly affect firm value. This suggests that environmental and sustainability-related intangible assets have not yet become a major consideration for investors in the Indonesian financial sector. Consequently, GICD does not serve as a strong signal in influencing investment decisions.
3) The Board of Commissioners does not moderate the effect of ERMD on firm value. The presence of the board fails to strengthen the relationship between enterprise risk management practices and firm value, indicating a limited role in enhancing the effectiveness of risk governance mechanisms.
4) The Board of Commissioners also does not moderate the relationship between GICD and firm value. This implies that oversight functions related to environmental and intellectual capital disclosures are not yet fully optimized by the board in contributing to firm value creation.

Overall, these results indicate that non-financial disclosures such as ERMD and GICD, along with the governance role of the Board of Commissioners, have not been effectively leveraged to enhance firm value in the financial sector context in Indonesia. Future research may benefit from exploring other moderating variables, longitudinal effects, or sectoral comparisons to better understand the strategic implications of such disclosures.

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