Sustainability Disclosure, Capital Structure, and Firm Value: The Moderating Role of Operational Activities

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In the era of globalization, increasing firm value is crucial for attracting investors and maintaining competitiveness. However, prior research regarding the determinants of firm value remains inconsistent. This study aims to analyze the influence of sustainability report disclosure and capital structure on firm value, while examining the moderating role of operational activity. The research employs a quantitative approach using secondary data from manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2023 period. Samples were selected using purposive sampling, and data were analyzed using multiple linear regression and Moderated Regression Analysis (MRA). The results indicate that sustainability report disclosure has a significant positive effect on firm value, reflecting that transparency enhances investor confidence. Conversely, capital structure has a significant negative effect, suggesting that high debt levels may increase financial risk and lower firm value. Furthermore, operational activity proves to be a significant moderating variable. Specifically, high operational activity weakens the influence of both sustainability reporting and capital structure on firm value. This implies that when companies demonstrate high operational efficiency and asset utilization, investors tend to prioritize actual operational performance over sustainability disclosures or funding decisions when assessing firm value. These findings contribute to the literature by highlighting how internal operational efficiency shifts investor focus and alters the impact of financial and non-financial disclosures.
Keywords: Firm Value, Sustainability Report, Capital Structure, Operational Activity.

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1. Introduction

The advent of globalization has precipitated fundamental structural shifts across various dimensions of life, profoundly impacting the economic and business sectors. The convergence of technological breakthroughs, market liberalization, and the accelerated mobility of goods, services, and human capital has engendered a fiercely competitive landscape. In the Indonesian context, this global pressure has necessitated that companies strictly enhance their corporate reputation as a strategic imperative to attract foreign and domestic investment while securing public legitimacy (Damayanty et al., 2022). The dynamism of the contemporary business environment is further evidenced by the proliferation of new entities across diverse industries. Notably, in 2023, Indonesia distinguished itself as a global hub for innovation, ranking sixth worldwide with a total of 2,562 startup companies (Safitri & Ika, 2023). This surge in market entrants has intensified rivalry among incumbent firms, making the preservation of firm value a critical challenge to avoid obsolescence. Consequently, strategic maneuvers such as product innovation, cost efficiency in operations, and the implementation of robust corporate governance have become prerequisites for market competitiveness. (Bayau et al., 2021) further elucidate that a firm's competitive advantage is no longer solely strictly contingent upon tangible assets but is increasingly driven by intangible assets—including knowledge management, innovation capabilities, information systems, and human capital quality—which are pivotal for business continuity. Firms that fail to optimize the management of both asset classes risk compromising their

going-concern status, thereby underscoring the necessity for resilience and growth amidst escalating competition.

The ubiquity of competition within the corporate sphere is an unavoidable reality that compels business practitioners to relentlessly pursue the maximization of firm value to ensure long-term survival. Firm value is paramount because its appreciation correlates directly with an upward trajectory in stock prices, thereby signaling an enhancement in shareholder wealth (Yudanti & Wardoyo, 2022). The propensity of prospective investors to commit capital is heavily contingent upon their perception of a company's value, which serves as a proxy for the firm's success and its stock market performance. A higher valuation equates to greater prosperity for the company's owners (Sisdianto & Fitri, 2020). However, the determination of firm value is multifaceted, depending not merely on financial metrics—such as profitability, capital structure, and operational efficiency—but also on non-financial determinants, including the quality of corporate governance, sustainability strategies, and the transparency exhibited in sustainability reporting.

One prominent mechanism employed to bolster firm value is the disclosure of sustainability reports. In the modern era, corporations are obligated to demonstrate accountability toward the environment and society, extending beyond mere profit generation. Investors increasingly favor entities that integrate social and environmental stewardship into their core operations to foster sustainable development (Wibowo, 2020). By definition, a sustainability report represents an organization’s practice of publicly quantifying and disclosing its economic, environmental, and social impacts, thereby capturing both positive and negative contributions toward sustainable development goals (GRI, 2016). Given that the corporate environment serves as the locus for all operational activities, the transparency afforded by sustainability reporting is anticipated to exert a constructive influence on firm value. In parallel, capital structure remains a fundamental financial determinant of firm value. This variable is critical as it dictates the company's financial standing and solvency. Capital structure delineates the strategic balance between long-term debt and equity, reflecting management's decisions regarding capital sourcing (Ilahi et al., 2021). An optimized capital structure is instrumental in generating maximal returns, which benefits both the corporation and its investors. This optimization positively impacts firm value by instilling investor confidence in the management’s ability to handle capital efficiently and leverage the benefits of a well-balanced financial structure.

Despite the theoretical alignments, empirical evidence regarding the interrelationships between sustainability reporting, capital structure, and firm value remains inconsistent. Regarding the impact of sustainability disclosures, (Widyadi & Widiatmoko, 2023), in their research "The Effect of Sustainability Report Disclosure and Audit Quality on Firm Value in Manufacturing Companies 2016-2020," concluded that sustainability reports significantly enhance firm value. In contrast, (Febriyanti, 2021), through the study "The Influence of Sustainability Reporting on Firm Value with Leverage as a Moderating Variable," argued that sustainability reporting has no significant effect on firm value. Similar discrepancies are observed in capital structure research. (Sari et al., 2025), in "The Effect of Sustainability Report Disclosure, Environmental Performance, and Capital Structure on Firm Value with Firm Size as a Moderating Variable," demonstrated a positive correlation between capital structure and firm value. Conversely, (Wardhani et al., 2021), in "The Influence of Profitability, Capital Structure, Firm Size, and Good Corporate Governance on Firm Value," found divergent results, stating that capital structure exerts no influence on firm value. These conflicting findings suggest that the direct relationships between these variables may be overly simplistic and point to the existence of a research gap. Most prior studies have predominantly focused on direct causalities; however, it is plausible that internal factors moderate these associations. Consequently, this study introduces operational activities as a critical internal factor to function as a moderating variable.

Operational activities hold the potential to significantly alter the dynamics of sustainability reporting and firm value. (Damayanty et al., 2022) posit that companies demonstrating consistent growth in activity percentages are more inclined to voluntarily disclose financial and sustainability reports to cultivate a positive reputation among stakeholders, which in turn directly elevates firm value. Furthermore, operational activities play a pivotal role in the nexus between capital structure and firm value. These activities serve as a reflection of managerial efficiency in asset utilization and resource management. High operational efficiency signals the company's capability to effectively service debts and manage assets, thereby reinforcing stakeholder confidence and subsequently enhancing firm value. The variability in previous research outcomes indicates that the influence of sustainability reporting and capital structure on firm value is not autonomous but is contingent upon other internal and external factors. This motivates the current research to investigate these relationships deeper by integrating operational activities—a rarely examined internal factor—as a moderator. The study specifically targets manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2022-2023 period. The manufacturing sector is selected due to its vital economic contribution and attractiveness to investors. Furthermore, this sector is characterized by large-scale production activities that demand high resource efficiency and is inherently sensitive to macroeconomic fluctuations such as raw material price volatility, inflation, and trade policies, all of which substantially impact operational performance and strategic business outcomes.

This study integrates Signaling Theory and Stakeholder Theory. Signaling Theory (Ross, 1997) posits that disclosing credible financial and non-financial information reduces information asymmetry, assuring investors of the company's prospects. Complementarily, Stakeholder Theory (Freeman & McVea, 2005) asserts that fulfilling responsibilities to all stakeholders—not just shareholders—builds trust and legitimacy, thereby creating long-term value (Julythiawati & Ardiana, 2023).

Firm value represents the market's perception of management's success in asset utilization (Sari et al., 2025). This value is driven by financial metrics and transparency mechanisms like Sustainability Reporting (SR). Defined by GRI (2016), SR signals a commitment to sustainable development, reducing uncertainty for investors (Wibowo, 2020). Furthermore, capital structure serves as a financial signal; prudent debt usage implies management confidence in future cash flows (Oktiwiati & Nurhayati, 2020). These signals are reinforced by operational activities, where high efficiency validates the company's robustness and moderates the impact of other variables on firm value (Anggelia et al., 2021).

Based on Signaling Theory, sustainability reporting serves as a crucial mechanism to reduce information asymmetry between management and external stakeholders. Consistent disclosure signals a company's commitment to long-term sustainable development, thereby attracting investors who prioritize social and environmental responsibility (Oktapriana & Bhuana, 2023; Wibowo, 2020). Consequently, this study posits that sustainability disclosure positively influences firm value (H1). Similarly, capital structure decisions act as a signal of management's confidence. The use of debt, when optimized, signals a strong belief in future cash flows and business prospects (Sintyana & Artini, 2018), leading to the hypothesis that capital structure significantly affects firm value (H2).

However, the strength of these relationships is likely contingent upon internal efficiency, specifically operational activities. Operational efficiency reflects the effective allocation of resources, which enhances financial stability (Warahma et al., 2024). Companies with robust operational activities are more likely to voluntarily disclose sustainability efforts to build reputation (Damayanty et al., 2022), suggesting that operational activities moderate the relationship between sustainability reporting and firm value (H3). Furthermore, high operational efficiency provides the necessary cash flow to service debt obligations, transforming leverage from a risk into a strategic asset. This concrete performance validates the positive signal sent by capital

structure to investors, implying that operational activities also moderate the relationship between capital structure and firm value (**H4**).

2. Methods

This quantitative study investigates the impact of sustainability report disclosure and capital structure on firm value, with operational activities acting as a moderating variable. The research focuses on manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2023 period. Data collection relies on secondary sources, specifically annual and sustainability reports retrieved from the official IDX website (www.idx.co.id) and respective company portals, which are subsequently analyzed using Moderated Regression Analysis (MRA).

The study population encompasses all manufacturing firms listed on the IDX during the observation years. From this population, a sample was determined using purposive sampling based on specific inclusion criteria: manufacturing companies that remained listed and published complete financial and sustainability reports throughout the 2022–2023 period.

The dependent variable in this study is Firm Value. Following the research by (Puspita & Jasman, 2022), this study uses Tobin's Q as a proxy for firm value. (Latif et al., 2017) define firm value measured by Tobin's Q as the sum of market capitalization and total debt, divided by total assets. The formula is as follows:

$$\mathrm{Q} = \frac{(\mathrm{EMV} + \mathrm{D})}{\mathrm{TA}}$$

Where:

Q: Firm Value

EMV: Equity Market Value (Share price × Number of shares outstanding)

D : Book Value of Total Debt

TA: Total Assets

The first independent variable in this study is Sustainability Report Disclosure. This variable is measured using the Sustainability Report Disclosure Index (SRDI). Adopting the measurement from (Kurniawan et al., 2018), the SRDI is calculated by assigning a score of 1 if an item is disclosed and 0 if it is not. The score is based on the items disclosed in the company's sustainability report relative to the expected items. The formula is:

$$\mathrm{SRDI} = \frac{\mathrm{n}}{\mathrm{k}}$$

Where:

SRDI: Sustainability Report Disclosure Index

n: Number of items disclosed

k: Number of expected items

The next independent variable in this study is capital structure, it is measured using the Debt to Equity Ratio (DER). This ratio compares the capital provided by creditors to that provided by the company owners, reflecting the debt burden relative to equity. The formula is:

$$\mathrm{DER} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

The moderating variable in this study is Operational Activities, proxied by the Total Assets Turnover (TATO) ratio. TATO measures how effectively a company utilizes its assets to generate sales (Kurniasari, 2017). It indicates the revenue generated for every rupiah of assets owned. The formula is:

$$\text{TATO} = \frac{\text{Sales}}{\text{Total Assets}}$$

Data analysis was performed using SPSS 26, beginning with descriptive statistics to provide a comprehensive overview of the observed variables through metrics such as mean, standard deviation, range, kurtosis, and skewness (Ghozali, 2016). Subsequently, classical assumption tests were conducted to ensure the regression model remains unbiased and valid. First, the Kolmogorov-Smirnov test was employed to verify that the data follows a normal distribution. Second, multicollinearity was assessed by analyzing Tolerance and Variance Inflation Factor (VIF) values; the model is considered free of multicollinearity if the Tolerance value exceeds 0.10 and the VIF is below 10. Third, the Glejser test was utilized to detect heteroscedasticity by examining if residual variance remains constant across observations. Finally, the Durbin-Watson (DW) test was applied to identify any potential autocorrelation between errors in periods t and $t - 1$.

To test the hypothesis involving the moderating variable, this study uses Moderated Regression Analysis (MRA) via the interaction test. MRA is a form of multiple linear regression where the equation contains an interaction term (multiplication of two or more independent variables). The regression equations are as follows:

Model without Moderation:

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

Model with Moderation (Interaction):

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_1 X_3 + \beta_5 X_2 X_3 + e$$

Where:

Y: Firm Value
α: Constant
β_{1-5}: Regression Coefficients
X_1: Sustainability Report
X_2: Capital Structure
X_3: Operational Activities (Moderator)
X_1X_3: Interaction between Sustainability Report and Operational Activities
X_2X_3: Interaction between Capital Structure and Operational Activities
e: Residual Error

Hypothesis testing is conducted to validate the proposed relationships within the model. First, the t-test evaluates the partial influence of each independent variable on the dependent variable, where a variable is deemed significant if the resulting p-value is less than the significance level of $\alpha = 0.05$. Subsequently, the Coefficient of Determination (R^2) is calculated to measure the model's explanatory power, quantifying the proportion of variance in the dependent variable attributable to the independent variables within a range of 0 to 1. Finally, the F-test assesses the simultaneous impact of all independent variables to determine the overall fit of the regression model, which is confirmed if the ANOVA significance value is less than 0.05.

3. Results And Discussion

Research Description

This study aims to examine the influence of sustainability report disclosure and capital structure on firm value, with operational activities acting as a moderating variable within manufacturing companies listed on the Indonesia Stock Exchange (IDX). This study utilizes secondary data derived from annual reports, sustainability reports, and financial statements of manufacturing companies for the 2022–2023 period. These

documents were retrieved from the official Indonesia Stock Exchange website (www.idx.co.id) and the official websites of the respective companies. The population comprises all manufacturing companies listed on the IDX, while the sample consists of companies selected via purposive sampling criteria during the 2022–2023 period.

Data Analysis

Descriptive Statistical Analysis

Table 1 presents the descriptive statistics, providing an overview of the data distribution including minimum, maximum, mean, and standard deviation values. The analysis reveals that Sustainability Reporting (SR) has a mean of 0.5473 (SD: 0.1287), indicating a moderate-to-high level of disclosure among the sampled firms. Capital Structure (DER) exhibits significant variation (Mean: 1.0250; SD: 1.4689), with values ranging from 0.03 to 17.04, reflecting diverse debt strategies. Firm Value (Tobin's Q) averages 1.4597; a value above 1.0 suggests positive market perception where market value generally exceeds book value. Finally, Operational Activities (TATO) show an average of 0.9275, indicating that, on average, companies are sufficiently effective in utilizing assets to generate sales.

Table 1. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
SR	254	.210	.927	.54743	.128690
DER	254	.034	17.037	1.02506	1.468851
TOBINQ	254	.144	10.570	1.45975	1.302754
TATO	254	.107	5.357	.92746	.629520
Valid N (listwise)	254				

*) data source SPSS, 2025

Classical Assumption Tests

Prior to hypothesis testing via Moderated Regression Analysis (MRA), classical assumption tests were conducted to ensure the model produces unbiased estimates. First, the normality test assessed whether regression residuals follow a normal distribution. As shown in Table 2, the Kolmogorov-Smirnov test using the Monte Carlo approach—performed post-outlier removal and data transformation—yielded a significance value of 0.321. Since this exceeds the 0.05 threshold, the residuals are confirmed to be normally distributed.

Table 2. Kolmogorov-Smirnov test using the Monte Carlo

Keterangan		Unstandardized Residual
N		245
Normal Parameters [a],[b]	Mean	.0000000
	Std. Deviation	.20896183
Most Extreme Differences	Absolute	.060
	Positive	.051
	Negative	-.060
Test Statistic		.060
Asymp. Sig. (2-tailed)		.031[c]
Monte Carlo Sig. (2-tailed)	Sig.	.321[d]
	99% Confidence Interval (Lower)	.309

	99% Confidence Interval (Upper)	.333

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Based on 10000 sampled tables with starting seed 2000000.

*) data source SPSS, 2025

Second, the model was tested for multicollinearity (Table 3), where all independent variables demonstrated Tolerance values greater than 0.10 and Variance Inflation Factor (VIF) values less than 10, confirming that the variables are not excessively correlated. Third, the Glejser test for heteroscedasticity (Table 4) showed significance values above 0.05 for all independent variables, indicating that residual variance remains constant (homoscedastic). Finally, the autocorrelation test (Table 5) yielded a Durbin-Watson (DW) statistic of 1.975, which falls within the acceptable range (dU < DW < 4 - dU). This is corroborated by the Run Test in Table 6 (p > 0.05), confirming that residuals are random and the model is valid for hypothesis testing.

Table 3. Multicollinearity Test

Model	Unstand. B	Unstand. Std. Error	Stand. Beta	t	Sig.	Coll. Tolerance	Coll. VIF
(Constant)	1.366	.064		21.492	.000		
SR	.238	.106	.084	2.258	.025	.991	1.009
DER	-.462	.021	-.805	-21.645	.000	.991	1.009
Dependent Variable: TOBINQ							

*) data source SPSS, 2025

Table 4. Heteroscedasticity Test

Model	Unstand. B	Unstand. Std. Error	Standardized Beta	t	Sig.
(Constant)	.187	.038		4.887	.000
SR	-.073	.064	-.074	-1.151	.251
DER	.022	.013	.111	1.735	.084
Dependent Variable: ABS_RES					

*) data source SPSS, 2025

Table 5. Autocorrelation Test (Durbin-Watson)

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.817[a]	.668	.665	.20982	1.975

a. Predictors: (Constant), DER, SR
b. Dependent Variable: TOBINQ

*) data source SPSS, 2025

Table 6. Autocorrelation Test (Run Test)

Keterangan	Unstandardized Residual
Test Value[a]	.02338
Cases < Test Value	122
Cases >= Test Value	123
Total Cases	245
Number of Runs	118
Z	-.704

Asymp. Sig. (2-tailed)	.481
a. Median	

*) data source SPSS, 2025

Hypothesis Testing

Hypothesis testing was conducted using Multiple Linear Regression for the baseline model and Moderated Regression Analysis (MRA) to examine the specific role of operational activities. For Model 1, the Coefficient of Determination (R^2) presented in Table 7 is 0.668 (Adjusted R^2: 0.665), indicating that Sustainability Reporting (SR) and Capital Structure (DER) account for 66.8% of the variance in Firm Value, while the remaining 33.2% is attributed to external factors.

Table 7. Coefficient of Determination

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.817 [a]	0.668	0.665	0.20982
a. Predictors (Constant): DER, SR				
b. Dependent Variable: TOBINQ				

*) data source SPSS, 2025

The Model Feasibility Test (F-test) in Table 8 confirms the model's goodness of fit, with a calculated F-value of 243.537 and a significance level of 0.000 (< 0.05), demonstrating that the independent variables simultaneously influence firm value.

Table 8. Feasibility Test (F-test)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.444	2	10.722	243.537	0.000 [b]
	Residual	10.654	242	0.044		
	Total	32.098	244			
a. Dependent Variable: TOBINQ						
b. Predictors: (Constant), DER, SR						

*) data source SPSS, 2025

Table 9. Partial t-test

Coefficients[a]					
Model	Unstandardized Coefficients (B)	Unstandardized Coefficients (Std. Error)	Standardized Coefficients (Beta)	t	Sig.
1 (Constant)	1.366	0.064		21.492	0.000
SR	0.238	0.106	0.084	2.258	0.025
DER	-0.462	0.021	-0.805	-21.645	0.000
a. Dependent Variable: TOBINQ					

*) data source SPSS, 2025

The resulting regression equation is expressed as:

$$Y = 1.366 + 0.238X_1 - 0.462X_2 + e$$

Where Y represents Firm Value, $X_1$is SR, and $X_2$is Capital Structure. The partial t-test results (Table 9) validate the individual hypotheses. The coefficient for SR (X_1) is 0.238 with a significance of 0.025 (< 0.05), leading to the acceptance of **H1**. This confirms that higher sustainability disclosure positively impacts firm value. Conversely, Capital Structure (X_2) exhibits a coefficient of -0.462 with a significance of 0.000 (< 0.05),

supporting **H2**. The negative coefficient implies that a higher Debt-to-Equity Ratio (DER) reduces firm value, suggesting that excessive leverage may elevate financial risk and diminish investor confidence.

Moderated Regression Analysis (MRA)

The MRA (Model 2) was employed to evaluate the moderating role of operational activities. As shown in Table 10, the R^2 value increased to 0.693 (Adjusted R^2: 0.687), indicating that the inclusion of the moderating variable and interaction terms enhances the model's explanatory power to 69.3%. The F-test (Table 11) yields an F-value of 107.967 (p=0.000), confirming the model's suitability.

Table 10. Coefficient of Determination Test Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.833 [a]	.693	.687	.20301

a. Predictors: (Constant), DERxTATO, SR, DER, SRxTATO, TATO

*) data source SPSS, 2025

Table 11. Feasibility Test (F-test)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.248	5	4.450	107.967	.000 [b]
	Residual	9.850	239	.041		
	Total	32.098	244			

a. Dependent Variable: TOBINQ

b. Predictors: (Constant), DERxTATO, SR, DER, SRxTATO, TATO

*) data source SPSS, 2025

Table 12. Partial t-test

Coefficients[a]						
Model		Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
1	(Constant)	.824	.138		5.973	.000
	SR	.828	.189	.292	4.391	.000
	DER	-.253	.061	-.441	-4.140	.000
	TATO	.674	.154	1.166	4.374	.000
	SRxTATO	-.784	.213	-.728	-3.675	.000
	DERxTATO	-.247	.067	-.585	-3.671	.000

a. Dependent Variable: TOBINQ

*) data source SPSS, 2025

The MRA equation derived from Table 12 is:

$$Y = 0.824 + 0.828X_1 - 0.253X_2 + 0.674X_3 - 0.784X_1X_3 - 0.247X_2X_3 + e$$

In this equation, X_3 represents Operational Activities, while X_1X_3 and X_2X_3 represent the interaction terms. The interaction between SR and Operational Activities (X_1X_3) shows a significant negative coefficient of -0.784 (p=0.000), leading to the acceptance of **H3**. This suggests that operational activities moderate the link between SR and firm value, potentially acting as a substitute where high operational visibility reduces the marginal benefit of disclosure. Similarly, the interaction between Capital Structure and Operational Activities (X_2X_3) is significant and negative (b=-0.247, p=0.000), supporting **H4**. This confirms that operational activities significantly moderate the relationship between capital structure and firm value.

Discussion

1. The Effect of Sustainability Report Disclosure on Firm Value

The statistical results confirm that H1 is accepted (Sig. 0.025). The positive coefficient indicates that broader sustainability disclosure leads to higher firm value (Tobin's Q). This aligns with Signaling Theory, where companies reduce information asymmetry by disclosing relevant non-financial information, thereby increasing market confidence. This finding supports (Bartlett, 2012) and (Widyadi & Widiatmoko, 2023), confirming that sustainability reporting acts as a strategic tool to enhance firm value, not just a compliance obligation.

2. The Effect of Capital Structure on Firm Value
   The results confirm that H2 is accepted (Sig. 0.000). The regression shows a significant influence of capital structure on firm value. While the results indicate a negative relationship (higher debt lowers value due to risk), the significance confirms that funding decisions are critical to market perception. This supports the notion that while optimal debt can signal confidence, the market is sensitive to the risks associated with leverage. This is consistent with findings by (Sari et al., 2025) and (Hung et al., 2021), emphasizing that capital structure decisions have direct implications for shareholder value.
3. The Role of Operational Activities in Moderating Sustainability Reporting
   The interaction test confirms H3 is accepted (Sig. 0.000). The negative interaction coefficient suggests that operational activities act as a moderator. Specifically, when a company demonstrates high operational efficiency (high TATO), investors focus more on this tangible operational performance, making the sustainability report a less dominant factor in determining firm value. Here, sustainability information serves as supplementary rather than primary data. This contrasts with (Damayanty et al., 2022), as this study finds that high operational performance may substitute the signaling need for sustainability reporting.
4. The Role of Operational Activities in Moderating Capital Structure
   The interaction test confirms H4 is accepted (Sig. 0.000). The negative interaction indicates that operational activities moderate the effect of capital structure on firm value. In companies with high operational activity, the negative impact of capital structure (debt) on firm value is dampened. Efficient operations provide a positive signal that assures investors of the company's ability to manage debt obligations, thereby reducing the dominant negative perception of high leverage.

4. Conclusion

This study concludes that sustainability reporting significantly enhances firm value, as transparent disclosure boosts investor confidence in the company's future prospects. Conversely, capital structure exerts a significant negative impact, suggesting that high debt levels increase financial risk and subsequently lower market valuation. Crucially, operational activities act as a significant moderator for both relationships. The findings indicate that high operational efficiency diminishes the influence of both sustainability reporting and capital structure on firm value, implying that when companies demonstrate strong operational performance, investors tend to prioritize these tangible results over sustainability disclosures or funding decisions. Despite these contributions, the study acknowledges certain limitations that contextualize the findings. The Adjusted R-square value suggests that other unexamined variables outside this specific model still play a role in influencing firm value. Additionally, the research relies on a relatively short observation period covering only the years 2022 to 2023, which may not fully capture long-term corporate trends or cyclical eco-

nomic fluctuations affecting the manufacturing sector. To address these limitations and enrich future scholarship, subsequent research should incorporate additional independent variables, such as profitability, firm size, or corporate governance, to construct a more comprehensive model. Furthermore, it is recommended that future studies extend the observation period and expand the scope to include other industrial sectors. This broader approach would improve the generalizability of the findings and provide a deeper understanding of the dynamic relationship between sustainability, financial strategy, and firm value across different market conditions.

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