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The Effect of CSR Disclosure, Environmental Performance, and Firm Characteristics on Firm Value with Financial Performance as a Mediating Variable

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ABSTRACT: This research examines the impact of Corporate Social Responsibility (CSR) Disclosure, Environmental Performance, and Firm Characteristics on Firm Value, with Financial Performance as a Mediating Variable. The research focuses on bacis materials companies listed on the Indonesia Stock Exchange. CSR Disclosure is assessed using the Corporate Social Responsibility Index (CSRI), Environmental Performance is represented by the PROPER rating, and Firm Characteristics include Firm Size, Managerial Ownership, and Capital Structure using the Debt to-Equity Ratio (DER). Firm Value is measured using Price-to-Book Value (PBV), and Financial Performance is proxied by Return on Assets (ROA). A purposive sampling technique selected 15 companies, and panel data regression analysis was conducted using EViews. The result show that Environmental Performance, Managerial Ownership, and Capital Structure have a significant positive effect on firm value. Capital Structure also positively influences Financial Performance, which in turn enhances Firm Value and Mediates the effect of Capital Structure on Firm Value. However, CSR Disclosure and Firm Size do not have a significant effect on Firm Value or Financial Performance. Additionally, Financial Performance does not mediate the relationship between CSR Disclosure, Environmental Performance, Firm Size, or Managerial Ownership and Firm Value.

KEYWORDS: CSR Disclosure, Environmental Performance, Firm Characteristics, Firm Value, Financial Performance

I. INTRODUCTION

The basic basic materials sector serves as a fundamental pillar in Indonesia's industrial and economic framework, supplying essential raw materials to numerous downstream sectors. As this sector experiences growing attention from market participants and policy stakeholders, the urgency to evaluate corporate performance becomes increasingly significant. Among the many indicators of company health, firm value stands out as a comprehensive measure of both the company's current condition and its anticipated future potential. Firm value, often reflected through the Price-to-Book Value (PBV) ratio, captures the market's perception of how efficiently and sustainably a company operates. Unlike profitability metrics that emphasize internal efficiency, firm value represents a broader market-based evaluation. PBV compares a firm's market capitalization to the book value of its equity. A PBV above one implies that investors see greater worth in the company beyond its accounting records-often attributed to intangible assets such as brand reputation, governance quality, innovation capacity, or strategic positioning. Conversely, a PBV below one may indicate market skepticism about the firm's growth potential, operational risk, or governance practices (Sunandes, 2020).

Value Relevance theory posits that accounting information, particularly financial statement elements such as net income and book value of equity, has explanatory power over a firm's market value. Originating from capital market information theory and reinforced by empirical studies from Beaver (1968) and Ball & Brown (1968). This theory suggests that when such information is useful to investors in firm valuation, it becomes reflected in stock prices or valuation ratios like Price-to-Book Value (PBV). Research by Barth, Beaver, and Landsman (2001) emphasized that earnings and book values are strongly associated with market valuation, especially during periods of financial distress. PBV is often employed to assess this relevance, as it directly compares market valuation to accounting based equity. A higher PBV may indicated investor confidence in the reported financials. The theory further advocates for enhanced disclosure such as fair value and goodwill recognition as these improve decision usefulness. In essence, the more relevant the financial disclosures, the more they influence investors perceptionof firm value, reinforcing the linkage between financial reporting quality and firm valuation. In the context of investment decision-making, firm value serves as a crucial reference point for investors, creditors, and analysts. High firm value tends to be associated with positive investor sentiment, greater capital inflow, and increased shareholder wealth. It also signifies that a firm is not only profitable but also perceived to be sustainable, well-managed, and forward-looking. However, data from the Indonesia Stock Exchange (IDX) between 2021 and 2023 reveal fluctuating and even declining firm values in several basic materials companies, despite overall economic recovery. This inconsistency suggests the presence of other variables-beyond financial performance-that may influence firm value (Bursa Efek Indonesia, 2023).

The disclosure of CSR activities through sustainability reports, guided by the Global Reporting Initiative (GRI-G4), allows companies to communicate their non-financial commitments transparently. In Indonesia, CSR impelentation is legally mandated under law No. 40 of 2007, specifically article 74, which requires companies operating in or impacting natural resources to carry out social and environmental responsibilities. This includes firm in the basic materials sector, which rely on raw materials and produce environmental impacts such as pollution. CSR is treated as a corporate obligation, not a voluntary action, and must be included in the company's budget. Government Regulation No. 47 of 2012 further states that CSR activities must be disclosed in the annual report to ensure transparency and accountability.CSR disclosure can improve a company's image, reduce legal risks, and build investor trust factors that contribute to enhancing firm value in the market. Likewise, participation in Indonesia's PROPER reflects the firm's adherence to environmental performance standards. These disclosures and recognitions are often perceived as signals of legitimacy, responsibility, and long-term viability-elements that can significantly influence firm value from the market's perspective. Law No. 32 of 2009 on environmental protection and management obliges companies to maintain environmental quality, disclose accurate environmental information, and uphold sustainability. This regulation is especially relevant to the basic material sector dueto its reliance on natural resources. Compliance helps reduce legal risk and improve operational efficiency, while also enhancingfirm reputation and investor trust. As a result, environmental responsibility, as mandated by this law, can contribute positively to long term value.

The economies of scale theory explains that larger firm can reduce production cost per unit through improved efficiency. Originating from Adam Smith (1776) and later expanded by Alfred Marshall (1890) the theory shows how company growth enables cost advantages and higher profitability. Bigger firms may access better financing, stronger supplier terms, and more efficient operations, which can enhance firm value though success still dependes on internal management and adaptability. Agency theory explains the conflict between shareholders and managers when their interests are not aligned. Jensen and Meckling (1976) argue that managerial ownership can reduce this conflict by aligning incentives. When managers own shares, they are more likely to act in ways that increase firm value. However, too much ownership may lead to entrenchment and reduced accountability. Therefore, an optimal level of managerial ownership can help minimize agency costs and support better firm performance. Modigliani and Miller (1958) proposed that in perfect markets, capital structure does not affect firm value. Later in 1963, they revised this by adding taxes, showing that debt can increase firm value through tax savings on interest. This theory highlights that using debt wisely can improve cash flow and boost firm value, but excessive debt may raise risk. An optimal capital structure balances debt and equity to support firm performance. The classical theory of profit, shaped by economies like Smith, Ricardo, Mill, and later Marshall, explains that profit results from efficient production and cost control in competitive markets. Profit increases when firm reduce costs, improve productivity, and align prices with marginal gains. Strongs financial performance, driven by operational efficiency, supports higher firm value by attracting investor trust and enhancing market reputation. Thus, profit and firm value are closely linked through effective cost and resource management.

Previous empirical research shows varied and sometimes contradictory results regarding the effects of CSR disclosure, environmental performance, and firm characteristics on firm value. For instance, Chen et al. (2024) and Putri & Sulistyowati (2024) found that CSR has a significant positive impact on firm value, indicating that sustainability efforts are appreciated by investors. However, Rahmi et al. (2019) and Revaliana & Budiwitjaksono (2022) found no such relationship, suggesting that the effectiveness of CSR depends on context or market perception. Regarding environmental performance, Putri et al. (2024) and Aprianti et al. (2023) demonstrated that better environmental ratings significantly improve firm value, especially when mediated by financial performance. However, studies such as Maesaroh et al. (2022) and Handayani (2019) found no direct effect, and some even reported that financial performance did not significantly mediate the relationship. Firm characteristics such as firm size, capital structure, and managerial ownership have also yielded mixed findings. Kholifah et al. (2024) showed a positive influence of firm size and leverage on firm value, but financial performance only mediated leverage not firm size. In contrast, Agustin et al. (2022) and Wahasusmiah & Arshinta (2022) found that firm size had no significant effect on firm value. Royani et al. (2020) and Suzan & Dini (2022), however, indicated that managerial ownership contributes positively to financial performance and firm value. These contradictory results highlight the potential role of financial performance as a mediating variable, and emphasize the importance of reevaluating these relationships, especially within the context of the basic materials sector in Indonesia area that remains underexplored.

II. METHODOLOGY

This research employed a quantitative approach with an associative design, aiming to examine the influence of CSR disclosure, environmental performance, and firm characteristics on firm value, with financial performance as a mediating variable. The population of this study consisted of companies in the basic materials sector listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. A purposive sampling technique was applied based on specific criteria, resulting in a final sample of 15 companies observed over three years, totaling 45 firm-year observations. Secondary data were obtained from annual reports, sustainability reports, and PROPER ratings published on the official websites of the companies and the Ministry of Environment and Forestry. CSR disclosure was measured using the Corporate Social Responsibility Index (CSRI) based on the GRI-G4 framework. Environmental performance was proxied by the PROPER ratings. Firm characteristics included firm size (log total assets), managerial ownership (percentage of shares owned by managers), and capital structure (measured by debt-to-equity ratio or DER). Financial performance was represented by return on assets (ROA), while firm value was measured using price-to-book value (PBV).

Table 1. Operational Research Variables

Variables	Indicator	Scale
Firm Value (Y)	$\frac{\text{Total Debt}}{\text{Total Equity}}$	Ratio
CSR Disclosure (X1)	$\frac{\text{Number of GRI Indicators Disclosed}}{\text{Total relevant GRI G4 2021 Indicators (91)}}$ X 100%	Ratio
Environmental Performance (X2)	Gold = 5 Green = 4 Blue = 3 Red = 2 Black = 1	Ratio
Firm Size (X3)	Ln (Total Assets)	Ratio
Managerial Ownership (X4)	$\frac{\text{Number of Shares Owned by Managers}}{\text{Outstanding Shares}}$ X 100%	Ratio
Capital Structure (X5)	$\frac{\text{Total Debt}}{\text{Total Equity}}$	Ratio
Financial Performance (M)	$\frac{\text{Net Income}}{\text{Total Asset}}$ X 100%	Ratio

III. RESULTS

Result statistics were employed to summarize the characteristics of the dataset, consisting of 45 observations from companies in the basic materials sector listed on the Indonesia Stock Exchange.

Table 2. Result Statistics

	PBV	CSRI	PROPER	SIZE	KM	DER	ROA
Mean	1.3099	0.5140	3.2000	29.955	0.1804	0.5596	0.4590
Median	1.1444	0.5055	3.0000	29.716	0.0386	0.5132	0.4192
Maximum	6.7224	0.7582	5.0000	32.681	0.7642	1.2788	0.9376
Minimum	0.3962	0.2637	2.0000	27.480	2.E-07	0.0696	0.1136
Std. Dev.	1.0218	0.1372	0.7862	1.6170	0.2705	0.3042	0.2497
Observations	45	45	45	45	45	45	45

The average average PBV was 1.3098, this indicates that, on average, investors value the company higher than the book value of its net assets. The relatively high average PBV reflects market confidence in the company's growth prospects, profitability, and business stability. Investors tend to assign higher valuations to firms with strong fundamental performance, positive earnings growth expectations, and sound managerial reputation factors that collectively drive share prices above their book values. Minimum PBV, 0.3962, was recorded by Gunung Raja Paksi Tbk (GGRP) in 2023. This figure is primarily attributable to the firm's depressed net income and overall deterioration in financial performance. Maxium PBV value, reaching 6.7224, was recorded by Ifishdeco Tbk (IFSH) in 2021. This exceptionally high figure can be attributed to the company's substantial net income and consistently improving financial performance. The standard deviation of 1.0217 indicates a relatively high dispersion or variability among firms in terms of market valuation relative to their book value, average Corporate Social Responsibility Index (CSRI) value of 0.5140 indicates that, on average, the companies in the sample disclosed more than 50% of the recommended social responsibility elements based on the Global Reporting Initiative (GRI) indicators. This suggests a moderate level of commitment to CSR practices as part of transparency and sustainable governance. The minimum CSRI value of 0.2637, recorded by Ifishdeco Tbk in 2021, reflects limited disclosure of CSR activities, which may be due to the company's prioritization of short-term profitability, budget constraints for CSR programs, or a lack of regulatory and stakeholder pressure regarding sustainability practices. On the other hand, the maximum CSRI value of 0.7582, achieved by Vale Indonesia Tbk in 2022–2023, indicates a strong and consistent engagement in CSR implementation and reporting. The relatively low standard deviation of 0.1372 implies a moderate degree of uniformity in CSR disclosure practices across the sampled companies. indicating moderate levels of sustainability disclosure.

The environmental performance rating component, known as PROPER, also exhibits a positive average, with a mean score of 3.2000. This average suggests that most companies in the sample fall within the "Blue" to "Green" categories, indicating compliance or even exceeding the minimum environmental management standards set by the Indonesian Ministry of Environment and Forestry (KLHK). The standard deviation of 0.7862 indicates considerable variability among firms in terms of environmental compliance and commitment. These differences may stem from variations in industry sectors, internal policies, or awareness of environmental issues. The lowest PROPER score, 2.0000 (categorized as "Red"), was observed in several companies: Samator Indo Gas Tbk (AGII) in 2021 and 2022; Unggul Indah Cahaya Tbk (UNIC) in 2021; Alkindo Naratama Tbk (ALDO) in 2021; Ifishdeco Tbk (IFSH) in 2021 and 2022; and Pabrik Kertas Tjiwi Kimia Tbk (TKIM) in 2023. A score of 2 indicates significant non-compliance with environmental regulations, which may be attributed to violations of environmental permits, technical infringements, or weak waste and emission management practices. The median PROPER score of 3.0000 reflects consistent performance by many companies, such as Samator Indo Gas Tbk (AGII) in 2023; Indo Acidatama Tbk (SRSN) from 2021 to 2023; Unggul Indah Cahaya Tbk (UNIC) in 2022 and 2023; Semen Baturaja (Persero) Tbk (SMBR) in 2021 and 2022; Alkindo Naratama Tbk (ALDO) in 2022 and 2023; Gunung Raja Paksi Tbk (GGRP) throughout 2021 to 2023; Ifishdeco Tbk (IFSH) in 2023; Steel Pipe Industry of Indonesia Tbk (ISSP) from 2021 to 2023; Indonesia Fibreboard Industry Tbk (IFII) from 2021 to 2023; Indah Kiat Pulp & Paper Tbk (INKP) during 2021 to 2023; and Pabrik Kertas Tjiwi Kimia Tbk (TKIM) in 2021 and 2022. The h ighest PROPER score, 5.0000 (categorized as "Gold"), was achieved by Semen Indonesia (Persero) Tbk (SMGR) in 2023 and PT Aneka Tambang (Persero) Tbk (ANTM) during 2021–2023. This top-tier rating reflects these companies' exceptional performance in environmental innovation and integrated social responsibility. The "Gold" rank signifies a strong environmental reputation and high adaptability to sustainability challenges.

Firm size (SIZE) exhibits a positive average (mean) value, recorded at 29.9547, indicating that, on average, firms possess total assets approximately 29 times greater—on a natural logarithmic (ln) scale—than the baseline value of 1 billion Rupiah. This figure reflects that most companies in the sample are categorized as large-scale enterprises with substantial asset capacity. Such firms are generally more capable of securing financial resources, expanding operational reach, and withstanding market volatility, which indirectly contributes to improved financial stability and performance. The standard deviation for SIZE is 1.6169, suggesting that while the majority of firms are relatively large, there exists considerable variation in asset scale across companies within this sector. The lowest recorded SIZE value is 27.4803, observed in Indo Acidatama Tbk (SRSN) in 2021. This figure is indicative of a small-sized enterprise within the basic materials sector, likely operating under constrained production capabilities, limited resources, and a narrower market scope. Meanwhile, the median SIZE value of 29.7157 is found in Samator Indo Gas Tbk (AGII) for the year 2022, reflecting a mid-sized firm within the sample distribution. The highest SIZE value of 32.6809 was achieved by Indah Kiat Pulp & Paper Tbk (INKP) in 2023, which underscores the firm's expansive scale in operations and capitalization. This also signifies a high level of market dominance, supported by extensive production capacity, distribution infrastructure, and sizable assets.

Regarding the managerial ownership (KM) variable, the mean value is 0.1804, indicating that, on average, managerial parties hold approximately 18% of the company's shares. This level of ownership is considered moderate and suggests a reasonable alignment of interests between management and shareholders, consistent with agency theory expectations. The standard deviation is 0.2705, signifying a relatively high degree of dispersion across the sample. This variation reflects differences in ownership philosophy and corporate governance structures among firms—ranging from publicly traded enterprises to family-controlled businesses. The minimum KM value is 0.0000, observed in Aneka Tambang (Persero) Tbk (ANTM) during 2021 and

2022. The absence of managerial shareholding in this case reflects a complete separation between ownership and control, a condition commonly found in state-owned enterprises or large corporations with dispersed ownership structures. Meanwhile, the median KM value is 0.0385, recorded for Steel Pipe Industry of Indonesia Tbk (ISSP) throughout 2021–2022, indicating that in half of the sample, managerial ownership remained below 4%. The maximum KM value of 0.7641 was documented for Gunung Raja Paksi Tbk (GGRP) from 2021 to 2023. This figure suggests a high degree of ownership concentration within management, often associated with stronger strategic control, more direct oversight of operations, and potentially fewer agency conflicts due to the unifield interest between owners and executives.

Meanwhile, the aspect of capital structure (Debt to Equity Ratio/DER) indicates a positive average value, with a mean of 0.5595, which suggests that, on average, firms finance approximately 55.95% of their equity with debt in their capital structure. This figure implies that the majority of companies in the sample rely more on internal funding (equity) than on external financing (debt). Such a pattern reflects a relatively conservative financial strategy, in which financial risk is minimized by maintaining debt at a moderate level. Consequently, firms are able to sustain a stable capital structure, free from excessive long-term interest obligations, thereby supporting long-term liquidity and profitability. The standard deviation of 0.3041 indicates that there is approximately 30.41% variation in the debt-to-equity ratio across companies in the sample. This relatively high dispersion reveals that capital structure policies differ substantially among firms and are influenced by internal characteristics such as capital needs, business cycles, and risk profiles. The lowest DER value, recorded at 0.0695 by Indonesia Fibreboard Industry Tbk (IFII) in 2021, indicates that the firm utilized only 6.95% debt relative to its equity, reflecting a very low dependence on external financing. This condition generally represents a highly conservative financial management approach, whereby operations are funded primarily through internally generated capital. The median DER value of 0.5132, observed in Pabrik Kertas Tjiwi Kimia Tbk (TKIM) in 2023, shows that 50% of the companies in the sample maintain a debt-to-equity ratio less than or equal to 51.32%. This suggests that most firms uphold a balanced capital structure, avoiding excessive leverage in order to maintain financial stability. In contrast, the maximum DER, reaching 1.2787, was achieved by Samator Indo Gas Tbk (AGII) in 2021. This means the company’s debt amounted to approximately 127.87% of its equity, indicating that the firm relied more heavily on borrowed capital than on shareholders' equity. Such a structure reflects an aggressive financing strategy, which may amplify financial returns through leverage but simultaneously increases exposure to interest obligations and liquidity risk if not properly managed.

Furthemore, the financial performance parameter measured by Return on Assets (ROA) also demonstrates a positive average value. The mean ROA is recorded at 0.0659, indicating that, on average, firms within the sample were able to generate net income equivalent to 6.59% of their total assets. This figure reflects the efficiency with which companies utilize their assets to generate profits and may be considered a fairly healthy level of financial performance, particularly within capital-intensive industries such as the basic materials sector. The standard deviation of 0.0476 implies a variation of approximately 4.76% in asset returns across the sampled firms. This spread highlights disparities in operational effectiveness and asset management efficiency, potentially stemming from differences in business strategies, cost structures, and financial risk profiles among the firms. The lowest ROA value of 0.0013, observed in Alkindo Naratama Tbk (ALDO) in 2023, suggests that the firm only managed to produce a net return of 0.13% on its total assets a level indicative of near break-even performance or very low operational efficiency. Such results often reflect operational strain, minimal profit margins, or the burden of high fixed costs. The median ROA, standing at 0.0587, as reported by Indah Kiat Pulp & Paper Tbk (INKP) since 2021, indicates that half of the companies in the sample earn a return on assets less than or equal to 5.87%. This suggests that the majority of firms maintain a relatively stable level of profitability, though a few high or low performing firms may significantly affect the overall average. The maximum ROA of 0.2054, achieved by Ifishdeco Tbk (IFSH) in 2023, implies that the firm generated net income equal to 20.54% of its total assets. This performance demonstrates exceptionally high efficiency in asset utilization, likely driven by substantial competitive advantages in cost control, production margins, or operational effectiveness.

A. Classical Assumption Test

Before conducting regression analysis, classical assumption tests were performed to ensure the validity of the model and the reliability of hypothesis testing. These included normality, multicollinearity, heteroscedasticity, and autocorrelation tests. Based on prior model selection results, Systemic 1 employed the Common Effect Model (CEM), while Systemic 2 used the Random Effect Model (REM) for the classical assumption testing process.

1) ***Normality Test:*** Based on the results presented in table 3 and table 4, the normality tests show probability values of 0.8564 and 0.5480 respectively, both exceeding the 0.05 significance level. These results meaning the data are normally distributed. Consequently, the regression models in both systems meet the normality assumption required for further analysis.

Table 3. Normality Test Model 1

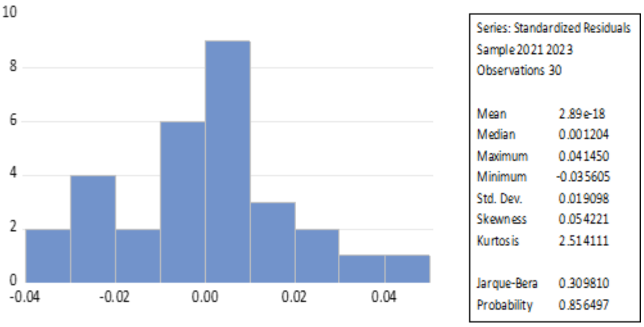
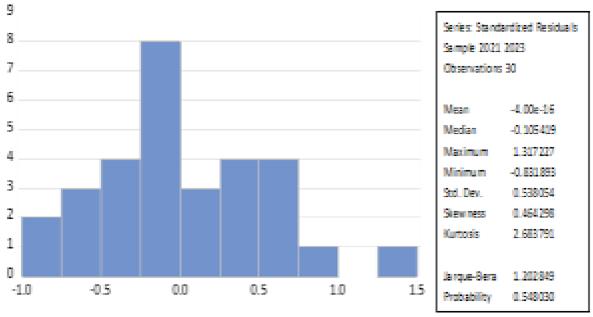


Table 4. Normality Test Model 2



2) ***Multicollinearity Test:*** The multicollinearity test results presented in table 5 and table 6 indicate that all correlation coefficients between the independent variables fall below the critical threshold of 0.80, suggesting no multicollinearity issues within the data. Variables such as CSRI, PROPER, SIZE, KM, DER, and ROA exhibit correlation values well within the acceptable range, which assumes no multicollinearity, is accepted. This confirms that the regression models are not affected by multicollinearity, allowing for reliable interpretation of relationships between variables in subsequent analysis.

Table 5. Multicollinearity Test Model 1

	CSRI	PROPER	SIZE	KM	DER
CSRI	1.0000	0.3036	0.5905	-0.0821	-0.1105
PROPER	0.3036	1.0000	0.3731	0.1031	-0.6487
SIZE	0.5905	0.3731	1.0000	-0.0871	-0.0854
KM	-0.0821	0.1031	-0.0871	1.0000	-0.5063
DER	-0.1105	-0.6487	-0.0854	-0.5063	1.0000

Table 6. Multicollinearity Test Model 2

	CSRI	PROPER	SIZE	KM	DER	ROA
CSRI	1.0000	0.3036	0.5905	-0.0821	-0.1105	0.3295
PROPER	0.3036	1.0000	0.3731	0.1031	-0.6487	0.3636
SIZE	0.5905	0.3731	1.0000	-0.0871	-0.0854	0.3616
KM	-0.0821	0.1031	-0.0871	1.0000	-0.5063	0.1229
DER	-0.1105	-0.6487	-0.0854	-0.5063	1.0000	-0.5178
ROA	0.3295	0.3636	0.3616	0.1229	-0.5178	1.0000

3) ***Autocorrelation Test:*** Based on the autocorrelation tests shown in table 7 and table 8, the Durbin-Watson (DW) values are 1.9756 and 1.9479, respectively. With a sample size of 30 (n = 30), five independent variables (k = 5), and a significance level of 5%, the critical values are dL = 1.0706, dU = 1.8326, 4−dU = 2.1674, and 4−dL = 2.9294. Since both DW values fall within the range of dU < DW < 4−dU (1.8326 < DW(1.9756 & 1.9479) < 2.1674), indicating no autocorrelation is present in the regression residuals.

Table 7. Autocorrelation Test Model 1

Durbin-Watson stat	1.9756

Table 8. Autocorrelation Test Model 2

Durbin-Watson stat	1.9479

4) ***Heteroscedasticity Test:*** Based on the heteroskedasticity tests presented in table 9 and table 10, the probability values exceed the 0.05 significance level, with table 9 showing a value of 0.0684. Meaning there is no indication of heteroskedasticity in the regression model, and the data meet the assumption of constant variance. In table 10, the heteroskedasticity test shows a probability value exceeding the 0.05 significance. This confirms that the data used in the regression model do not exhibit signs of heteroskedasticity, and thus, the assumption of homoscedasticity is fulfilled.

Table 9. Heteroscedasticity Test Model 1

Panel Cross-section Heteroskedasticity LR Test
Equation: UNTITLED
Specification: ROA CSRI PROPER SIZE KM DER C
Null hypothesis: Residuals are homoskedastic

	Value	df	Probability
Likelihood ratio	17.28080	10	0.0684

Table 10. Heteroscedasticity Test Model 2

	Cross-section
Breusch-Pagan	3.510191 (0.0610)

B. Hypothesis Testing

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Hypothesis testing in this study involved three main statistical analyses: adjusted R-squared to assess the explanatory power of the model, F-test to evaluate the overall significance of the independent variables simultaneously, and t-test to examine the partial effect of each independent variable. These tests were applied to both model 1 and model 2 to determine the robustness and reliability of the regression results in explaining the variation in firm value.

1) ***Adjusted R^2:*** Referring to Table 11, the Adjusted R-squared value is reported at 0.2951, which falls within the acceptable range of $0 < R^2 < 1$, indicating that the independent variables CSRI, PROPER, firm size (SIZE), managerial ownership (KM), and capital structure (DER) are able to explain approximately 29% of the variation in Return on Assets (ROA). The remaining 71% is attributed to other factors not included in the model. This suggests that while these five variables contribute to explaining changes in financial performance, their explanatory power is relatively modest. As shown in Table 12, the Adjusted R-squared value is 0.4136, which lies within the range of $0 < R^2 < 1$, indicating that the independent variables CSRI, PROPER, firm size (SIZE), managerial ownership (KM), capital structure (DER), along with the mediating variable ROA collectively explain about 41% of the variation in firm value (PBV). The remaining 59% is influenced by other factors not included in the model. This suggests that these variables have a moderately strong explanatory power in predicting firm value.

Table 11. Adjusted R^2 Model 1

R-squared	0.4167
Adjusted R-squared	0.2951

Table 12. Adjusted R^2 Model 2

R-squared	0.5349
Adjusted R-squared	0.4136

2) ***F- Statistic Test:*** Based on the F-statistic test results shown in table 13, the probability value is 0.0177, which is below the 0.05 significance level. Therefore, it can be concluded that the independent variables CSRI, PROPER, firm size (SIZE), managerial ownership (KM), and capital structure (DER) collectively have a significant relationship with Return on Assets (ROA). The F-statistic results in table 14, the probability value is 0.0042, which is lower than the 0.05 significance level. Therefore, it can be concluded that the independent variables CSRI, PROPER, firm size (SIZE), managerial ownership (KM), capital structure (DER), along with the mediating variable ROA collectively have a significant relationship with firm value (PBV).

Table 13. F-Test Model 1

F-statistic	3.4286
Prob(F-statistic)	0.0177

Table 14. F-Test Model 2

F-statistic	4.4090
Prob(F-statistic)	0.0042

3) ***t-Test:*** Referring to the t-test results in table 15 for model 1, it is shown that CSRI (p = 0.5010), PROPER (p = 0.3266), firm size (p = 0.1612), and managerial ownership (p = 0.3516) all have p-values greater than 0.05, indicating that these variables do not significantly affect ROA and the null hypotheses are accepted. However, capital structure (DER) shows a significance value of 0.0091, which is below the 0.05 threshold, suggesting that DER has a significant positive influence on ROA and the alternative hypothesis is accepted. Based on the t-test results in table 16 for model 2, several findings emerge. CSRI has a significance value of 0.0962, which is above the 0.05 threshold, indicating no significant effect on firm value (PBV). Conversely, PROPER (p = 0.0079), managerial ownership (KM) (p = 0.0115), capital structure (DER) (p = 0.0033), and financial performance (ROA) (p = 0.0001) all show significance values below 0.05, meaning they have a significant positive effect on PBV. Meanwhile, firm size (p = 0.2597) does not significantly influence PBV. These results confirm that PROPER, KM, DER, and ROA play important roles in explaining variations in firm value.

Table 15. t-Test Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CSRI	0.027876	0.040800	0.683219	0.5010
PROPER	0.010424	0.010410	1.001365	0.3266
SIZE	0.004693	0.003246	1.445681	0.1612
KM	0.016332	0.017191	0.950004	0.3516
DER	0.054016	0.019051	2.835271	0.0091
C	-0.037150	0.084369	-0.440330	0.6636

Table 16. t-Test Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CSRI	-1.245779	0.718273	-1.734409	0.0962
PROPER	0.358302	0.123091	2.910873	0.0079
SIZE	0.091642	0.079303	1.155598	0.2597
KM	1.150817	0.418813	2.747807	0.0115
DER	0.935601	0.285090	3.281779	0.0033
ROA	8.258864	1.820034	4.537753	0.0001
C	1.350934	2.178964	0.619989	0.5414

C. Sobel Test

The Effect of CSR Disclosure, Environmental Performance, and Firm Characteristics on Firm Value with Financial Performance as a Mediating Variable

The Sobel test was applied to assess the indirect effects of independent variables on firm value (PBV) through the mediating role of financial performance (ROA). The test revealed that CSRI (z = 0.6756), PROPER (z = 0.9778), SIZE (z = 1.3775), and KM (z = 0.9298) had z-values below the critical threshold of 1.96, indicating no significant indirect influence on PBV through ROA. In contrast, DER showed a significant indirect effect with a z-value of 2.4045, exceeding the threshold. Thus, only DER was found to significantly affect PBV through the mediating role of ROA, while the other variables did not exhibit meaningful mediation effects.

D. Conceptual Framework of Research

Based on the formulation of the problem, discussion and relevant research, the conceptual framework of this research is obtainer as in figure 1 below.

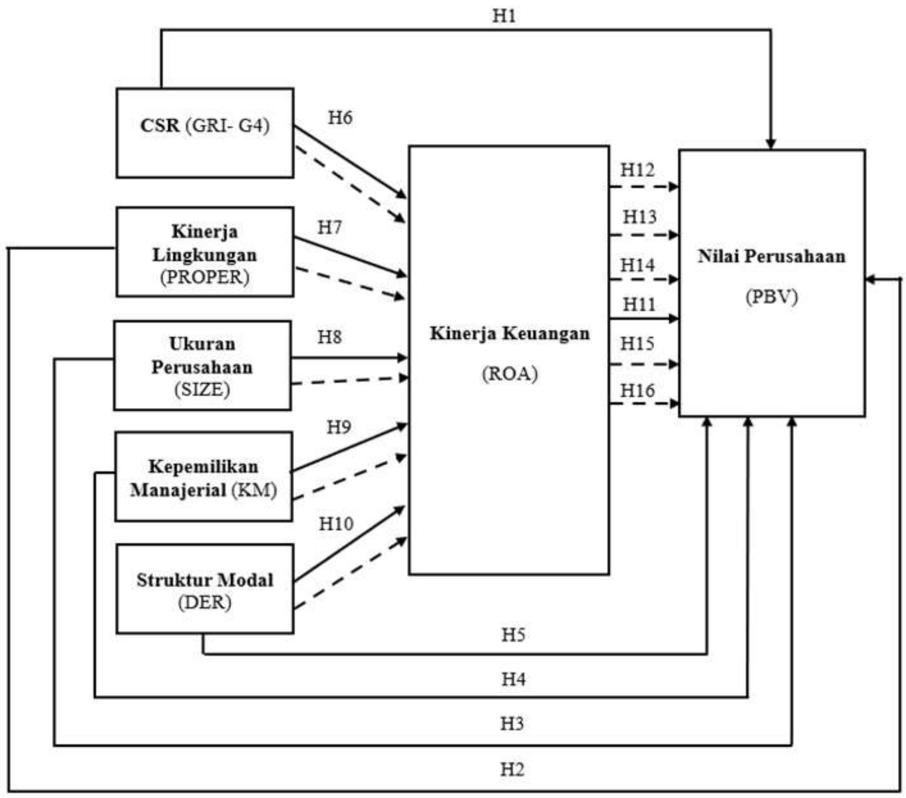

Figure 1. Conceptual Framework

IV. DISCUSSION

Based on the hypothesis testing results, this study finds that Corporate Social Responsibility (CSR) disclosure, firm size, and environmental performance do not significantly influence financial performance (ROA) between 2021 and 2023. Similarly, CSR disclosure and firm size also show no direct effect on firm value (PBV). These findings suggest that non-financial disclosures such as CSR, as well as firm scale, may not be immediately recognized by investors as value-enhancing factors unless supported by strong financial fundamentals. However, environmental performance demonstrates a direct positive relationship with firm value, implying that the market increasingly values companies with strong sustainability practices. Meanwhile, managerial ownership and capital structure are both positively associated with firm value, and only capital structure significantly impacts financial performance. These outcomes support the agency theory, where aligned management incentives and optimal leverage decisions contribute to firm value, though not always through improved short-term profitability.

In terms of mediation, financial performance only acts as an intervening variable between capital structure and firm value. This shows that while optimal debt equity composition improves financial indicators like ROA, it also indirectly raises firm valuation through improved market confidence. For other independent variables CSR, environmental performance, firm size, and managerial ownership no mediating effect of financial performance is observed. This highlights that not all strategic or governance variables impact value creation through profitability. In particular, CSR and environmental initiatives might contribute more to long-term reputation or stakeholder trust rather than short-term financial returns. Moreover, managerial ownership does not enhance financial performance despite its positive association with firm value, indicating that other factors such as governance quality or strategic alignment may play more significant roles.

Overall, financial performance has a robust direct relationship with firm value, consistent with various prior studies. Companies with higher profitability, efficiency, and stable financial conditions are perceived more favorably by investors, which elevates their market valuation. However, not all variables function through financial outcomes. This study contributes to the literature by confirming that financial performance is a partial mediator and that structural decisions particularly capital structure are key drivers of both profitability and valuation. The results reinforce the importance of strategic financial management in maximizing firm value, while also recognizing that non-financial indicators may require longer horizons or additional market awareness to exert influence.

V. CONCLUSIONS

Based on the findings from the research and concludes that in the basic materials sector.

1. CSR disclosure, firm size, and environmental performance do not directly impact financial performance, while only capital structure demonstrates a significant influence. In contrast, environmental.
2. Environmental performance, managerial ownership, and capital structure have a direct and significant relationship with firm value, whereas CSR disclosure and firm size do not.
3. Financial performance plays a crucial role in enhancing firm value, yet it does not serve as an effective mediating variable for the influence of CSR disclosure, environmental performance, firm size, or managerial ownership on firm value. It only mediates the relationship between capital structure and firm value. These findings contribute to management and finance literature by reinforcing the importance of financial structure in shaping both profitability and valuation, while also indicating that sustainability efforts and ownership structures alone may not lead to financial improvement unless supported by effective capital decisions. Therefore, strategic financial decisions remain essential in driving firm value in resource-based industries.

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