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The Effect of Ownership Structure and Environmental Costs on Financial Performance With Company Characteristics and Cost Efficiency as Intervening Variables in Metal and Similar Sub-Sector Companies Listed on the Indonesia Stock Exchange

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Abstract

This study is focused on investigating and evaluating the impact of Ownership Structure and Environmental Costs on Financial Performance using Company Characteristics and Cost Efficiency as Intervening Variables. All companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2024 that are part of the Metal and Similar Sub-Sector comprise the population used in this study. The Partial Least Square (PLS) method, which incorporates testing through the outer model and inner model, was used for data analysis and hypothesis testing. The study's findings show that ownership structure negatively influences financial performance, although the effect is not statistically significant. Meanwhile, ownership structure shows a positive and significant influence on company characteristics, and a negative yet significant influence on cost efficiency. Furthermore, environmental costs positively affect company characteristics but without significance, and they also negatively influence financial performance, although not significantly. In addition, company characteristics demonstrate a positive and significant effect on cost efficiency, while cost efficiency itself positively and significantly contributes to financial performance.

Keywords: *Ownership Structure, Environmental Costs, Financial Performance, Company Characteristics, Cost Efficiency*

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I. Introduction

One of the most important metrics for determining a company's degree of success is its financial performance. Since profit is essential to maintaining corporate continuity, it is the primary criterion for assessing the company's capacity to endure and expand (Jayati, 2016). Several factors that influence a company's financial performance include ownership structure, firm characteristics, cost efficiency, and environmental costs. Ownership structure acts as a control mechanism that can minimize conflicts of interest between managers and shareholders (Faisal, 2005). Firm characteristics—which include company size, business risk, asset growth, and profitability—reflect internal conditions that affect financing strategies and capital structure. Cost efficiency represents a company's ability to manage expenditures optimally to produce maximum output. A company that can reduce operational costs without compromising product or service quality will have a higher competitive advantage and better profitability.

In general, companies focus on increasing profits and obtaining additional capital. However, some companies still tend to overlook environmental impacts and social consequences arising from their operational activities. A company's orientation toward profit maximization is often accompanied by weak implementation of environmental management and a lack of concern for environmental conservation efforts (Hastawati and Sarsiti, 2016). Environmental issues in Indonesia have become highly significant and require serious attention, given the increasingly evident negative impacts of poor environmental management. Many cases of environmental damage have occurred as a result of improper environmental handling. According to the Ministry of Environment, three river estuaries in Muara Enim, South Sumatra, were found polluted due to mining activities carried out by four companies. This situation illustrates how little businesses understand and are accountable for the effects of their operations on the environment.

This research focuses on metal and similar subsector companies listed on the Indonesia Stock Exchange (IDX) because companies in this industry possess operational characteristics that result in substantial environmental impacts. Given these characteristics, the metal subsector serves as an ideal object for analyzing the influence of environmental costs and ownership structure on financial performance. Additionally, firm characteristics and cost efficiency may function as intervening variables that mediate the relationship between environmental costs, ownership structure, and financial performance outcomes. This research offers novelty by combining multiple variables analyzed simultaneously in one model—ownership structure, environmental costs, firm characteristics, cost efficiency, and financial performance. Previous studies generally examined only direct relationships, such as between ownership structure and financial performance, or between environmental costs and profitability. By integrating intervening variables such as firm characteristics and cost efficiency, this research is able to reveal indirect effects of ownership structure and environmental costs on financial performance, thereby providing a deeper insight into the elements that affect the financial success of metal subsector companies

Empirical Literature Review

1. Management Accounting

The act of finding, gathering, measuring, and reporting data that management uses to plan, control, and make better company decisions is known as management accounting (Hansen & Mowen, 2018). It is an accounting system related to the provision and utilization of managerial information within an organization. Management accounting also plays a role in formulating effective planning, supporting performance control and evaluation, and assisting management in identifying and resolving deviations or problems occurring within the company (Hwihanus et al., 2019).

2. Financial Management

Financial management refers to the practice of administering and controlling a company's financial resources, which includes obtaining and using cash in an efficient and effective manner to accomplish organizational objectives. (Irfani, 2020). Financial management encompasses all corporate activities related to acquiring and utilizing funds at the lowest possible cost and under the most favorable terms (Riyanto, 2008).

3. Sustainability Accounting

Sustainability accounting is the integration of social accounting, environmental accounting, and financial accounting to support ethical and sustainability-oriented business practices (Anugrah & Stephanus, 2023). It represents a holistic accounting approach that considers economic, social, and environmental aspects in measuring and reporting corporate performance. Sustainability accounting aligns business strategies with internal and external environmental factors to create long-term sustainable value for all stakeholders (Pandin et al., 2024).

4. Legitimacy Theory

Legitimacy theory asserts that organizations operate within and are integral to the broader society; therefore, they must comply with prevailing social norms and expectations. The relevance of legitimacy theory to economic and financial performance emerges when there is a misalignment between corporate values and societal values, which may result in a loss of legitimacy and ultimately threaten business continuity (Hadi, 2011).

5. Stakeholder Theory

Stakeholder theory emphasizes that companies must manage relationships with all parties who influence or are influenced by corporate activities. An organization's capacity to generate value and preserve equilibrium among stakeholders, including workers, clients, suppliers, the government, and society, is just as important to its success as shareholder interests. (Parmar et al., 2010). According to the theory, all stakeholders are entitled to information about business operations that could influence their decision-making.

6. Environmental Cost

Environmental costs are expenses that a business incurs in relation to environmental harm and conservation initiatives (Susenohaji, 2003). These expenses result from possible environmental damage or low environmental quality (Hansen & Mowen, 2009). Environmental costs include compliance with environmental regulations, environmental protection efforts, and preventive actions against possible pollution or damage.

7. Ownership Structure

The percentage of shares owned by a firm is represented by its ownership structure, which shows how shareholders' rights and power over operational and policy-related choices are distributed (Hwihanus et al., 2019). It reflects the involvement and influence of each shareholder in strategic decision-making. Ownership composition plays a vital role in balancing power among shareholders and can influence corporate governance effectiveness, managerial policies, and overall financial performance.

8. Firm Characteristics

Firm characteristics refer to factors that distinguish one company from another. Each entity possesses unique attributes, and the social impact produced varies according to its characteristics. These factors include size, age, profitability, leverage, ownership, board structure, and the company's overall profile (Utami & Prastiti, 2011).

9. Cost Efficiency

Cost efficiency is a financial management strategy that emphasizes reducing operational expenses through effective supervision, planning, and resource utilization (Prasetyo, 2018). It involves monitoring, planning, and managing operational costs to minimize waste, increase productivity, and maintain profitability. With cost efficiency, companies can allocate resources more rationally, strengthen financial position, and enhance competitiveness and stakeholder trust.

10. Financial Performance

Financial performance is the result of a company's operational activities presented through systematically prepared financial figures that reflect the actual condition of the organization (Kariyoto, 2017). It indicates whether the company is experiencing profit or loss. Financial performance serves as a basis for management in developing strategies to improve resource management effectiveness and achieve corporate objectives.

II. Method, Data, and Analysis

Data from the official website (www.idx.co.id) and sustainability reports of each company, which are available via the corresponding official corporate websites, are used in this quantitative study. This study used quantitative data, that is, numerical data that can be statistically analyzed. Secondary data from annual reports serves as the data source. Ten companies were chosen as the research sample from the 36 companies in the metal and related subsectors that were listed on the Indonesia Stock Exchange between 2020 and 2024.

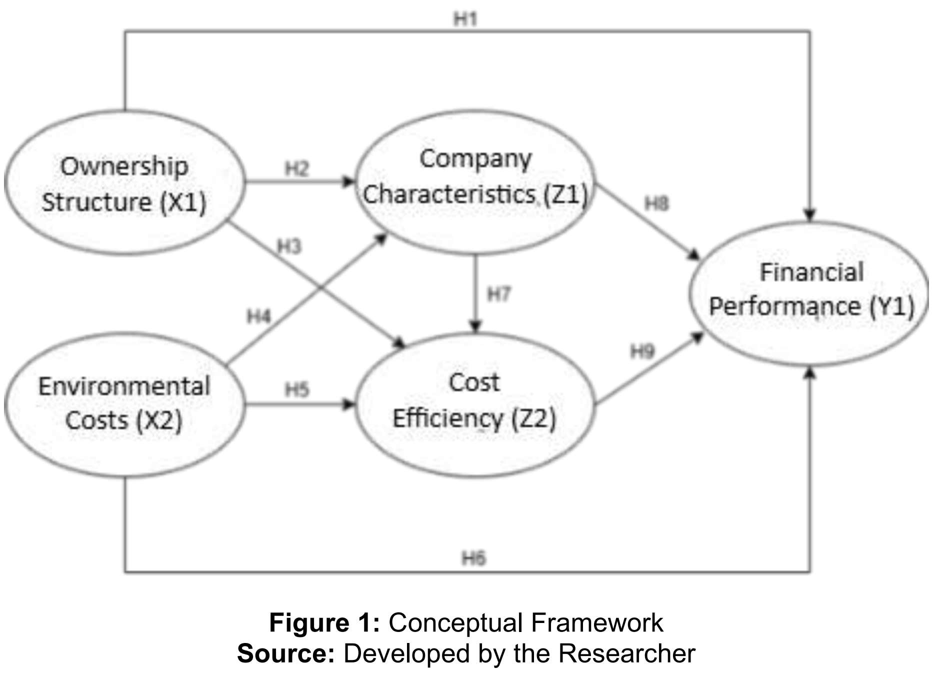

Figure 1: Conceptual Framework
Source: Developed by the Researcher

III. Result and Discussion

Table 1. *Path Coefficients*

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	
Environmental Costs -> Cost Efficiency	-0.194	-0.184	0.108	1.796	0.073	Not Significant
Environmental Costs -> Company Characteristics	0.12	0.128	0.145	0.832	0.405	Not Significant
Environmental Costs -> Financial Performance	-0.115	-0.106	0.068	1.693	0.090	Not Significant
Cost Efficiency -> Financial Performance	0.708	0.78	0.12	5.907	0.000	Significant
Company Characteristics -> Cost Efficiency	0.568	0.613	0.174	3.264	0.001	Significant
Company Characteristics -> Financial Performance	0.329	0.238	0.169	1.944	0.052	Not Significant
Ownership Structure -> Cost Efficiency	-0.569	-0.597	0.155	3.662	0.000	Significant
Ownership Structure -> Company Characteristics	0.477	0.444	0.221	2.158	0.031	Significant
Ownership Structure -> Financial Performance	-0.168	-0.109	0.146	1.152	0.249	Not Significant

Source: Developed by the Researcher

H1: Ownership structure has no significant effect on financial performance.

The findings demonstrate a negative relationship between the two variables and financial performance, indicated by an Original Sample (O) score of -0.168 and a P-Value of 0.249, which exceeds the 0.05 significance threshold. Therefore, it can be concluded that ownership structure does not significantly influence the company's financial performance, leading to the rejection of the proposed hypothesis. These findings align with previous studies that likewise reported no substantial effect of ownership structure on financial outcomes (Missel & Hwihanus, 2025; Ramadanthy & Hwihanus, 2024; Pratiwi & Hwihanus, 2024).

H2: Ownership structure has a significant effect on firm characteristics.

The findings demonstrate an Original Sample (O) value of 0.477, suggesting a positive relationship between the variables, with a P-Value of 0.031, which is below 0.05. This confirms that ownership structure significantly affects firm characteristics. The findings support the hypothesis and show that ownership variation reflects differences in the internal conditions of the company. This result is consistent with Pratiwi & Hwihanus (2024), who also found significant influence, but contradicts Missel & Hwihanus (2025), who concluded otherwise

H3: Ownership structure has a significant effect on cost efficiency.

The findings demonstrate a negative link between the variables with an Original Sample (O) value of -0.569 and a statistically significant effect with a P-Value of 0.000 (<0.05). This suggests that ownership mix affects how cost-efficient a business is. These outcomes consistent with Hassan et al. (2014) and Utomo et al. (2019), who stated that concentrated ownership can increase operational cost effectiveness and efficiency.

H4: Environmental cost has no significant effect on firm characteristics.

The test results show an Original Sample (O) of 0.120, indicating a positive relationship direction, but with a P-Value of 0.405 (>0.05). Thus, environmental cost does not significantly influence firm characteristics. This suggests that the level of environmental expenditure does not strongly reflect internal corporate characteristics. These results contradict Nababan & Dede (2019) and Purnaman et al. (2025), who argued that environmental costs correlate with managerial capacity and quality, and therefore their findings are rejected in this study.

H5: Environmental cost has no significant effect on cost efficiency.

The test results show an Original Sample (O) of -0.194, indicating a negative relationship direction, with a P-Value of 0.073 (>0.05). Thus, environmental cost does not significantly affect cost efficiency. This means environmental expenditure does not directly contribute to improving operational efficiency. These findings reject Kartika et al. (2025), who stated that environmental cost management could improve efficiency through waste reduction and production system enhancement.

H6: Environmental cost has no significant effect on financial performance.

The analysis reveals an Original Sample (O) of -0.115, indicating a negative relationship, with a P-Value of 0.090 (>0.05), meaning the hypothesis is rejected. Environmental cost has not been proven to significantly influence financial performance. This aligns with Setiadi (2021), Aulia et al. (2023), and Cahyani & Puspitasari (2023), who also found no significant effect. However, this contradicts Ladyve et al. (2020) and Kaat & Sofian (2023), who reported a significant negative effect.

H7: Firm characteristics have a significant effect on cost efficiency.

The results show an Original Sample (O) of 0.568, indicating a positive relationship, with a P-Value of 0.001 (<0.05). This confirms that firm characteristics significantly affect cost efficiency. These results show that the company's capacity to control expenses is influenced by internal elements including size, organizational structure, and resources. This contrasts with Pertiwi & Ananda (2023), who argued that an increase in firm size could lower cost efficiency due to higher operational expenses and risk.

H8: Firm characteristics have no significant effect on financial performance.

The results show an Original Sample (O) of 0.329 with a P-Value of 0.052 (>0.05), meaning firm characteristics do not significantly affect financial performance and the hypothesis is rejected. This finding aligns with Pratiwi & Hwihanus (2024), but contradicts Missel & Hwihanus (2025), who found a significant effect, and rejects Ramadanthy & Hwihanus (2024), who reported a negative but insignificant effect.

H9: Cost efficiency has a significant effect on financial performance.

A substantial and significant positive effect is indicated by the results, which reveal an Original Sample (O) of 0.708 with a P-Value of 0.000 (<0.05). Cost efficiency has been proven to influence financial performance. These results support the hypothesis and show that efficient cost management improves profitability and overall financial outcomes. This is consistent with research (Manalu et al., 2025; Mustika et al., 2023; Gabriel & Abdi, 2022; Lendrawati & Abdi, 2021; Onoyi & Windayati, 2021).

IV. Conclusion

The ownership structure does not exert a meaningful influence on the company's financial performance (H1). This finding indicates that the composition of ownership—whether foreign, managerial, or government—has not been able to directly enhance financial outcomes. However, ownership structure is proven to significantly influence firm characteristics (H2), meaning that variations in shareholding can affect internal corporate aspects such as company size, governance mechanisms, and policy orientation. In addition, ownership structure also has a significant influence on cost efficiency (H3), implying that a more appropriate and controlled ownership structure leads to better cost management within the company.

The environmental cost variable shows no significant effect on firm characteristics (H4), cost efficiency (H5), or financial performance (H6). This result indicates that environmental expenditure has not yet produced substantial changes to internal company conditions nor contributed meaningfully to financial outcomes.

Firm characteristics have a significant effect on cost efficiency (H7). This implies that internal elements including board composition, asset growth, and firm size might enhance the company's capacity to control and lower operating costs. However, firm characteristics do not significantly affect financial performance (H8), indicating that improved profitability is not a direct result of internal business conditions.

Cost efficiency is found to significantly influence financial performance (H9). This result reinforces the notion that efficient cost management plays a vital role in enhancing profit and overall financial achievement. Overall, the findings of this study highlight that cost efficiency is one of the strongest determinants of financial performance, while other variables such as environmental cost, ownership structure, and firm characteristics do not yet provide a significant direct contribution to financial outcomes

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