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THE ROLE OF ISO 14001 AND ENVIRONMENTAL PERFORMANCE IN ENHANCING FINANCIAL PERFORMANCE

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ABSTRACT

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Companies have a responsibility to manage the environment efficiently and effectively, ensuring both the quality of human life and the sustainability of nature. Additionally, sound environmental management plays a crucial role in business continuity. This research aims to examine the impact of ISO 14001 implementation on financial performance, with environmental performance as a moderating variable. The research population comprises manufacturing companies in the food and beverage sector listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. The sampling technique employed is purposive sampling, yielding a sample of 14 companies. The results indicate that ISO 14001 positively influences financial performance, whereas environmental performance does not significantly affect financial performance. However, environmental performance strengthens the impact of ISO 14001 on improving corporate financial performance

INTRODUCTION

Financial performance is a key factor in determining a company's success in managing its financial position. In corporate governance, financial performance information serves as the basis for decision-making and policy development to enhance and strengthen financial stability (Damanik & Yadnyana, 2017). With increasing business competition, companies must strive to attract investors seeking optimal returns. However, many companies overlook their responsibility to maintain environmental balance. Although businesses initially generate positive social impacts, their primary focus remains profit maximization.

Over time, public awareness has grown regarding the negative environmental consequences of uncontrolled resource exploitation, including pollution, deforestation, water contamination, and waste accumulation. These issues significantly affect ecosystems and human well-being. In Indonesia, environmental pollution continues to escalate due to low compliance with environmental management standards. If not properly managed, these environmental issues can lead to severe consequences. The manufacturing industry is a major contributor to environmental pollution. Many business activities in this sector negatively impact surrounding ecosystems, particularly through industrial waste disposal. Ambarwati & Hapsoro (2020), cases such as PT. Ultrajaya Milk, PT. Siantar Top, and PT. Mayora highlights instances where companies have discharged industrial waste irresponsibly, leading to water and air pollution.

The International Organization for Standardization (ISO) introduced ISO 14001 as a voluntary international standard for effective environmental management. However, not all companies adopt ISO 14001 due to high investment and audit costs (Hotria & Afriyenti, 2018). This standard aims to balance environmental protection with economic and social needs (Suaidah & Putri, 2020). Prior studies, such as Ong et al., (2016), indicate that ISO 14001 implementation positively impacts financial performance (ROA and ROE) by increasing investor confidence in companies with strong environmental commitments. However, research findings on ISO 14001 remain inconsistent, as observed in studies by Hazudin et al. (2015), Suaidah & Putri, (2020), and Afazis & Handayani, (2020).

In today's business environment, corporate environmental responsibility is essential for long-term sustainability and success. One key instrument for assessing and improving corporate environmental impact is the Corporate Environmental Performance Rating (PROPER). Effective PROPER management not only reflects ethical values but also positively contributes to financial performance. Stakeholders including customers, investors, and the public increasingly demand responsible environmental practices. Companies integrating PROPER into their business strategies can achieve an ideal balance between environmental sustainability and financial performance. Suaidah & Putri (2020) found that environmental performance (PROPER) significantly influences ROA, as companies demonstrating strong environmental and social responsibility attract positive investor responses. Other studies, such as Ali et al., (2022) and Cahyani & Puspitasari (2023) also indicate a relationship between environmental performance and financial performance.

Given the inconsistencies in prior research, this study aims to develop a research model that examines environmental performance both as an independent variable and as a moderating

RESEARCH MATERIALS AND METHODS

ISO 14001 is a voluntary environmental management framework aimed at continuously improving environmental management and impact control. Corporate environmental awareness is often driven by external stakeholders, including consumers and regulatory bodies. Companies that adopt ISO 14001 gain a positive reputation and greater trust from investors and consumers, which in turn enhances corporate sustainability and financial performance. A study by Ong et al., (2016) found that firms implementing ISO 14001 experience improvements in financial performance, specifically in Return on Assets (ROA) and Return on Equity (ROE). Investors tend to favor green companies for long-term investments, a finding that aligns with research by Sueb & Nety, (2012), which suggests that companies prioritizing environmental responsibility attract more investor confidence and financial benefits.

Similarly, legitimacy theory, introduced by Dowling & Pfeffer (1975), emphasizes the relationship between businesses and their surrounding environment. This theory suggests that public perception plays a crucial role in a company's long-term survival. One of its key principles is that institutions can thrive only if their actions align with societal values. Companies that integrate environmentally responsible practices, such as ISO 14001, demonstrate their commitment to socially accepted norms, which enhances public trust and corporate legitimacy Kinasih et al., (2021). From a legitimacy perspective by Ghozali (2020), businesses operate within a social contract, requiring them to align their operations with societal expectations and environmental standards. This alignment is achieved through environmentally sustainable practices, which not only comply with regulations but also contribute to public welfare and

environmental conservation. By implementing ISO 14001, companies legitimize their operations, ensuring greater acceptance from society while simultaneously improving their financial performance.

H1: ISO 14001 has a positive effect on financial performance

The Influence of Environmental Performance to Financial Performance

Companies with strong environmental performance demonstrate their reliability and trustworthiness to stakeholders. The availability of corporate environmental performance data reflects the extent to which a company fulfills its obligations in managing its environmental impact (Meiyana & Aisyah, 2019). Environmental performance is assessed through a company's achievements in the Corporate Environmental Performance Rating (PROPER) program, an initiative by Indonesia's Ministry of Environment and Forestry (KLH) aimed at encouraging corporate environmental management through an information-based instrument (Suaidah & Putri, 2020). Therefore, businesses are expected to undertake activities deemed necessary by stakeholders and report these activities accordingly Suandi & Ruchjana, (2021). Empirical evidence from Cahyani & Puspitasari, (2023) confirms that PROPER, as a measure of corporate environmental performance, significantly influences financial performance. This finding suggests that superior environmental performance is positively perceived by investors, as reflected in stock price fluctuations, ultimately enhancing a company's financial performance. Improved environmental performance strengthens a company's earnings and profitability, which serve as key financial indicators.

Applying Legitimacy Theory in a business context implies that companies must align their operations with social norms and values, ensuring their activities contribute to societal well-being. Businesses gain legitimacy by engaging in environmentally and socially responsible practices, fulfilling stakeholder expectations, and fostering sustainable community development. Through this alignment, firms enhance their reputation, attract investor confidence, and ultimately improve their financial performance. This theoretical framework strengthens the hypothesis that environmental performance positively affects financial performance. By managing environmental responsibilities effectively, companies not only comply with regulatory expectations but also gain stakeholder trust, thereby improving financial sustainability.

H2: Environmental performance has a positive effect on financial performance.

The Influence of Environmental Performance as a Moderating Variable on the Relationship Between ISO 14001 and Financial Performance

The implementation of ISO 14001 enhances environmental performance, which, in turn, positively impacts financial performance (Afazis & Handayani, 2020). Similarly, Suaidah & Putri, (2020) found that management acknowledges the significance of environmental performance in sustainable development. According to Wicaksono (2024), environmental costs and performance significantly influence a company's financial performance. The study suggests that investments in environmental initiatives can lead to better financial outcomes, highlighting the importance of environmental performance in enhancing the benefits of environmental management practices. Ali et al., (2022) found that environmental management practices positively affect both environmental and financial performance. Their research indicates that effective environmental strategies can lead to improved financial metrics, emphasizing the critical role of environmental performance in this dynamic.

This aligns with legitimacy theory, which emphasizes the inseparable relationship between businesses and society. The mutual influence between the two creates positive

reciprocity, impacting corporate profitability and revenue, which are reflected in financial performance. Consequently, environmental performance can strengthen the relationship between environmental management accounting and financial performance. Based on this premise, the research hypothesis is formulated as follows:

H3: Environmental performance strengthens the influence of ISO 14001 on financial performance.

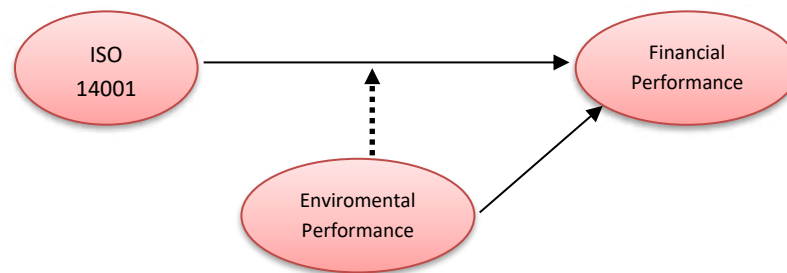


Figure 1. Research Model

This study is a causal research. The population consists of manufacturing sector companies listed on the Indonesia Stock Exchange from 2019 to 2023. The sampling technique used is purposive sampling, with a total sample of 14 companies. This study using SEM-PLS. Financial performance refers to the relationship between an entity's income and expenses as presented in the income statement, where profit is used as a measure of performance. In this study, financial performance refers to the research by Setiadi (2021) and Nuryaman, (2016) (2021), and is measured using the Return on Assets (ROA) ratio.

$$ROA = (\text{Net profit}) / (\text{Total Asset}) \times 100\%$$

The International Organization for Standardization (ISO) is an independent body responsible for issuing ISO 14001, an internationally recognized standard for Environmental Management Systems (EMS). The adoption of ISO 14001 has been shown to improve a company's reputation and strengthen stakeholder trust, including among investors, consumers, surrounding communities, and regulatory authorities. The implementation of environmental management accounting is measured using a dummy variable, represented by the ISO 14001 certification obtained by the company. Companies that possess ISO 14001 certification are assigned a score of 1, whereas those without the certification are assigned a score of 0 (Afazis & Handayani, 2020).

Environmental performance is measured using the PROPER rating, which is officially issued by the Ministry of Environment (Arimbi & Mayangsari, 2022). This study assigns performance scores to companies participating in the PROPER program, with a maximum score of 5 representing the highest environmental performance and a minimum score of 1 indicating poor environmental performance. The description of the PROPER rating system and its corresponding scores is presented in the following table:

Table 1. Proper Rating System

No	Rating	Description	Score
1	Gold	Consistently demonstrates environmental excellence in production processes, conducts ethical business practices, and shows responsibility toward society.	5
2	Green	Performs environmental management beyond regulatory compliance through the implementation of environmental management systems, efficient resource use, and strong social responsibility.	4
3	Blue	Meets the minimum environmental management requirements in accordance with existing laws and regulations.	3
4	Red	Undertakes environmental management efforts, but they do not yet comply with applicable regulations.	2
5	Black	Intentionally commits acts or omissions that lead to environmental pollution or damage, violates environmental regulations, and/or fails to comply with administrative sanctions.	1

RESULT AND DISCUSSION

Descriptive statistics in this study refer to the mean, standard deviation, minimum, and maximum values of all variables. Based on Table 1, the distribution of data in this study is relatively even, as indicated by the mean and standard deviation values.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Performance	70	-58,252	34,309	5,933	10,950
Environmental Performance	70	3	5	3,24	0,523
Valid N (listwise)	70				

Source : Processed secondary data, 2025

Based on Table 3, the R-Squared result is 0.055, indicating that 5.5% of the variation in the endogenous or dependent variable (going concern audit opinion) can be explained by the exogenous or independent variables (ISO 14001 and Environmental Performance) and the moderation of environmental performance. The remaining 94.5% is explained by other variables outside this research model. The Q-Squared result in this study is 0.250, indicating good predictive validity as it exceeds the threshold of 0.

Table 3 .R-Square, Q-Square and Effect Size

R-Squared = 0,055			
Q-Squared = 0,250			
Effect size			
Variabel	Path Coefficients	Description	Rule of Thumb
ISO	0,134	Weak	> 0,02 Small
PRO	0,014	Weak	> 0,15 Medium
ISO*PRO	0,092	Weak	> 0,35 Large

Source : Processed secondary data, 2025

Table 4. Path Coefficient and P-Value

Variabel	Path Coefficients	P-value	Rule of Thumb	Keterangan
ISO 14001	0,301	0,003	P < 0,05	H1 Accepted
PRO	-0,094	0,211	P < 0,05	H2 Rejected
ISO*PRO	0,198	0,041	P < 0,05	H3 Accepted

Source : Processed secondary data, 2025

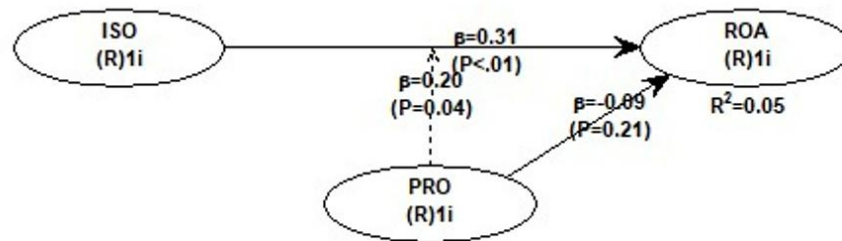


Figure 2. SEM-PLS Model

According to Table 4, the findings of this study indicate that ISO 14001 has a significant positive effect on financial performance, as evidenced by the path coefficient value of 0.301 (positive) and a P-value of 0.003 (< 0.05), leading to the acceptance of H1. This result supports the argument that companies implementing ISO 14001 can enhance their financial performance by improving their environmental management practices.

These findings align with the research conducted by Ong et al., (2016), which highlights that companies adopting environmental management systems, such as ISO 14001, experience improvements in financial performance due to enhanced operational efficiency, waste reduction, and cost savings. By adhering to ISO 14001 standards, companies can minimize regulatory risks and potential penalties, leading to better financial stability. Similarly, the study by Sueb & Nety, (2012) found a positive correlation between ISO 14001 implementation and financial performance, emphasizing that businesses with strong environmental commitments gain a competitive advantage, attract investors, and foster long-term profitability.

From the perspective of legitimacy theory, these findings further reinforce the notion that businesses operate within a social framework where they must align with societal expectations. According to legitimacy theory, companies seek to establish legitimacy by conforming to environmental and regulatory standards to maintain public trust (Dowling & Pfeffer, 1975). The implementation of ISO 14001 signals a company's commitment to environmental sustainability, enhancing its reputation among stakeholders, including investors, customers, and regulatory bodies. As a result, firms that integrate ISO 14001 into their operations are more likely to gain stakeholder support, ensuring continued market presence and improved financial performance.

In conclusion, the positive impact of ISO 14001 on financial performance underscores the importance of environmental responsibility in corporate success. By improving environmental management, companies not only comply with regulations but also gain competitive advantages, aligning their operations with broader societal expectations and securing long-term financial growth.

Based on Table 4, The findings of this study indicate that environmental performance does not significantly impact financial performance, as evidenced by a path coefficient value of -0.094 and a P-Value of 0.211 (> 0.05), leading to the rejection of H2. This result suggests that a strong environmental performance does not necessarily translate into financial benefits for a company. While firms may strive to achieve high environmental standards, such as obtaining a high PROPER rating, the associated costs of compliance and implementation can be substantial. These costs include investment in sustainable technologies, pollution control measures, and regulatory compliance, all of which can place financial strain on a company. Consequently, firms

may experience reduced profitability due to the high capital expenditures required to maintain environmentally friendly operations.

The findings align with Aliamutu et al., (2023), who examined the impact of environmental costs on financial performance in the plastic industry. Their study revealed that while companies investing in environmental initiatives contribute to sustainability, the financial benefits are not immediate. Instead, these investments often lead to increased operational costs that may not be offset by short-term gains in profitability. Similarly, Suandi & Ruchjana, (2021) found that environmental performance and costs did not significantly affect Return on Assets (ROA), reinforcing the argument that environmental investments do not always yield immediate financial rewards. These findings can be analysed through the lens of legitimacy theory, which suggests that companies engage in environmentally responsible practices to align with societal expectations and maintain their legitimacy. Organizations that adopt high environmental standards, such as PROPER compliance, often do so to enhance their corporate image, fulfil regulatory requirements, and meet stakeholder expectations.

Furthermore, Cahyani & Puspitasari, (2023) emphasized that while environmental performance and green accounting practices are crucial for corporate sustainability, they do not always result in improved financial performance. Their study found that the costs associated with implementing environmentally friendly initiatives could negatively impact financial metrics if not balanced with efficient cost management and strategic investment decisions.

Based on Table 4, The results of this study indicate that environmental performance, as proxied by PROPER, significantly moderates the relationship between ISO 14001 implementation and financial performance. With a path coefficient of 0.198 (positive) and a P-Value of 0.041 (< 0.05), the findings support H3, confirming that a high PROPER rating strengthens the positive impact of ISO 14001 adoption on a company's financial performance.

These results align with the findings of Evita & Syafruddin, (2019) who found that firms with strong environmental performance tend to achieve better financial outcomes due to cost efficiencies, risk reduction, and enhanced investor confidence. Their research suggests that companies that actively manage their environmental impact such as those with ISO 14001 certification can benefit from improved financial stability, particularly when they achieve high PROPER ratings. The findings of this study can be explained through legitimacy theory, which posits that companies must align their actions with societal expectations to maintain legitimacy and secure long-term success (Suchman, 1995). By implementing ISO 14001 and achieving high PROPER ratings, companies demonstrate their commitment to environmental sustainability, which enhances their legitimacy in the eyes of stakeholders, including investors, customers, and regulatory bodies.

Furthermore, Sueb & Nety, (2012) emphasize that ISO 14001 contributes to financial performance not only through operational efficiencies but also by enhancing corporate legitimacy. When companies are perceived as environmentally responsible, they gain competitive advantages such as improved stakeholder trust, regulatory compliance, and market preference. This study supports the argument that a higher PROPER rating reinforces these benefits, strengthening the link between ISO 14001 implementation and financial performance. Additionally, Syaputra & Arsjah, (2024) found that companies adopting green accounting which includes environmental performance indicators like PROPER experience positive financial impacts. Their study highlights how regulatory compliance and voluntary environmental initiatives contribute to financial growth by reducing legal risks and increasing investor appeal. In line with these findings, the present study suggests that a high PROPER rating signals a

company's strong commitment to sustainability, further legitimizing its operations and improving its financial performance

CONCLUSION

Companies that implement ISO 14001 can enhance their financial performance by building a strong reputation and gaining trust from investors and consumers, thereby driving business sustainability. However, environmental performance, as measured by the PROPER rating, does not always have a direct impact on financial performance due to the high costs associated with meeting compliance requirements, which may reduce company profits. Additionally, a lack of education about PROPER results in limited appreciation from the public and investors regarding corporate environmental performance. Nevertheless, a high PROPER rating can strengthen the relationship between ISO 14001 implementation and financial performance. The combination of ISO 14001 adoption and a high PROPER rating can improve operational efficiency, reduce environmental risks, and enhance corporate reputation, ultimately leading to positive financial performance

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