ISSN 3090-6326

Journal of Applied Accounting and Sustainable Finance

https://ojs.azzukhrufcendikia.or.id/index.php/aasf

VOL. 1. ISSUE. 3 ; December (2025)

Effectiveness of Managerial Ownership in Moderating the Impact of Green Accounting and Green Intellectual Capital on Financial Performance

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Article Info

Keywords:
- *Green Accounting;*
- *Green Intellectual Capital;*
- *Financial Performance;*
- *Managerial Ownership*

Article History

Received: 08 – 09 - 2025
Accepted: 10 – 12 - 2025
Published: 30 – 12 – 2025

Abstract

Purpose *– This study aims to obtain empirical evidence regarding the effect of green accounting and green intellectual capital on financial performance with managerial ownership as a moderating variable.*

Design/methodology/approach *– This research uses quantitative research. The sample in this study were industrials sector companies listed on the Indonesia Stock Exchange in 2021-2024, totaling 41 companies. The analysis technique used to test the hypothesis is multiple regression analysis and moderation interaction regression using EViews 9 software.*

Findings *– The results of this study indicate that green accounting has a negative and statistically insignificant effect on financial performance. In contrast, green intellectual capital has a positive and statistically significant effect on financial performance, and managerial ownership has a positive and statistically significant effect on financial performance. However, managerial ownership does not strengthen the effect of green accounting on financial performance, while managerial ownership strengthens the effect of green intellectual capital on financial performance.*

Research limitations/implications *– This study discusses corporate financial performance as well as other factors such as green accounting, green intellectual capital, and managerial ownership, focusing on industrials sector companies. This study makes a novel contribution by placing managerial ownership as a moderating variable that strengthens the relationship to explain variations in corporate financial performance amidst increasing demands for sustainable business practices.*

Originality/value *– This study is a new contribution to Indonesian literature because it integrates green accounting, green intellectual capital, and managerial ownership into a single research framework. The evidence produced can be used as a reference for academics, practitioners, and regulators to understand the role of managerial ownership in strengthening sustainability practices that impact corporate financial performance.*

INTRODUCTION

The industrial sector in Indonesia plays an important role in national economic growth through the processing of raw materials into value-added goods (Prabowo, 2025). Based on the Indonesia Stock Exchange Industrials Classification (IDX-IC), this sector includes sub-sectors of heavy equipment, aerospace equipment, electrical equipment, building materials, and

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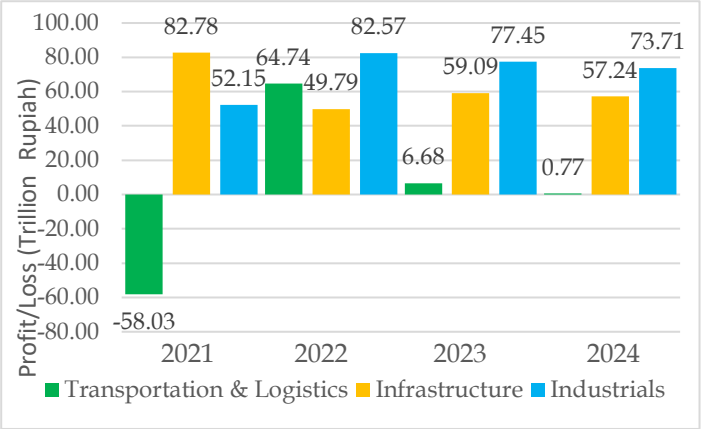
https://ojs.azzukhrufcendikia.or.id/index.php/aasf
VOL. 1. ISSUE. 3 ; December (2025)
ISSN 3090-6326

professional services (IDX, 2021). This sector contributes to downstreaming, import substitution, and is the backbone of the national value chain. Throughout 2024, the non-oil and gas processing industry grew 4.75 percent, higher than the previous year, and contributed 17.16 percent to the national Gross Domestic Product and provided employment for millions of people https://Www.Antaranews.Com.

Despite this vital role, the industrial sector is also a major contributor to emissions and waste due to dependence on fossil energy (https://Mutucertification.Com). This has led to pressure from regulators, communities and investors for companies to integrate sustainability principles. The global commitment to Sustainable Development Goals (SDGs) and the Triple Bottom Line paradigm (Elkington, 1997) emphasize the importance of integrating economic, social and environmental aspects. In Indonesia, POJK No. 51/POJK.03/2017 regulates the implementation of Environmental, Social, and Governance (ESG) practices, so that sustainability is no longer just a moral obligation, but rather a business strategy to strengthen long-term competitiveness (Heryana & Soeratin, 2025). Sectoral financial performance shows mixed dynamics.



The industrials sector was relatively stable with a net profit of IDR52.15 trillion in 2021, rising to IDR82.57 trillion in 2022, then declining to IDR73.71 trillion in 2024. In contrast, the transportation and logistics sector is very volatile, from a huge loss of IDR58.03 trillion in 2021, to a profit of IDR64.74 trillion in 2022, then falling to IDR0.77 trillion in 2024. Meanwhile, the infrastructure sector tends to stabilize in the range of IDR49-59 trillion in 2022-2024 after reaching IDR82.78 trillion in 2021. This variation shows that there are differences in adaptability and efficiency between companies in the face of environmental and global economic pressures.

In this context, green accounting and green intellectual capital practices are important instruments. Green accounting emphasizes recording environmental costs and benefits in financial statements to improve efficiency, reputation and compliance (Ir & Sisdianto, 2024). However, research results are still mixed, ranging from significant positive (Dianty & Nurrahim, 2022; Majidah & Aryanty, 2022) to negative or insignificant (Bangun et al., 2024). Similarly, green intellectual capital, which includes human, structural, and relational capital based on the environment, is proven to have a significant positive effect in some studies (Anggriani & Dewi, 2021; Putri & Murtanto, 2023), but is inconsistent in other studies (Bangun

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https://ojs.azzukhrufcendikia.or.id/index.php/aasf
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et al., 2024; Sahid & I, 2023).

Managerial ownership factors also have the potential to influence the relationship. Managers who own company shares have a double incentive to maintain reputation and sustainability, but the results of previous studies still vary, either significant positive, insignificant, or negative (Amiyanto & Riduwan, 2022; Irsyad, 2022; Yulianingsih & Wahyuni, 2023). Most studies place managerial ownership as an independent variable, while studies on its role as a moderator are still limited. Therefore, this study aims to analyze the effect of green accounting and green intellectual capital on financial performance with managerial ownership as a moderating variable in industrials sector companies listed on the IDX for the 2021-2024 period.

LITERATUR REVIEW

Stakeholder Theory

Stakeholder theory was first proposed by Freeman (1984) who stated that stakeholders are individuals or groups that can affect or be affected by the achievement of organizational goals. This view was later expanded by Mitchell et al. (1997) and Freeman & Vea (2001) who emphasized that stakeholders include internal and external parties, ranging from shareholders, employees, customers, suppliers, communities, to the government. This theory emphasizes the importance of the reciprocal relationship between companies and stakeholders, so companies need to maintain trust by presenting transparent information, one of which is through the application of green accounting which integrates environmental aspects into financial reporting.

Legitimacy Theory

Legitimacy theory was introduced by Dowling & Pfeffer (1975) who defined legitimacy as a condition when organizational activities are in line with prevailing social values and norms. Suchman (1995) adds that legitimacy is the public's perception of the appropriateness of the company's actions, while Dimaggio & Powell (1983) explain that legitimacy is also influenced by environmental pressures that encourage organizations to adapt. In this context, managerial ownership plays an important role because managers who own shares are not only interested in profits, but also in the reputation and sustainability of the company, thus encouraging the implementation of practices that are in line with the company's policies.

Sustainability Theory

Sustainability theory was first introduced by Meadows et al. (1772) through The Limits elkito Growth report which emphasized the importance of maintaining a balance between meeting the needs of the current generation and the ability of future generations to meet their needs. This concept was then emphasized by Brundtland (1987) through the Our Common Future report by emphasizing intergenerational justice which is the basis of sustainable development. Furthermore, Elkington (1997) introduced the Triple Bottom Line concept that integrates the economic (profit), environmental (planet), and social (people) dimensions, which later developed into the Environmental, Social, and Governance (ESG) framework. In Indonesia, the application of sustainability principles is strengthened through POJK No. 51/POJK.03/2017 which requires companies to prepare sustainability reports as a form of

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transparency. In this context, green intellectual capital plays an important role because it integrates environmental aspects in knowledge management, innovation, and corporate external relations, thereby supporting sustainability-oriented business strategies.

Signaling Theory

Signaling theory was proposed by Spence (1973) which explains that parties who have more information will provide signals to parties with less information in order to reduce uncertainty and information asymmetry in decision making. In the context of financial performance, signals can be in the form of dividend policy, capital structure, and financial reports that reflect the actual condition and prospects of the company (Ross (1977). Connelly et al. (2011) emphasize that the effectiveness of signals depends on the clarity, consistency, and credibility of the information conveyed. Thus, signal theory provides a basis for understanding how management conveys relevant information that can strengthen investor and stakeholder confidence and increase positive perceptions of the company's financial performance.

Stewardship Theory

The stewardship theory proposed by Donaldson & Davis (1991) views managers as stewards who act in the interests of the organization as a whole, not just for personal gain. Managers are considered to have intrinsic motivation to maintain, manage, and improve the company's performance in a sustainable manner by prioritizing common goals over individual interests (Davis et al., 1997). Hernandez (2012) adds that managers in a stewardship role have a moral and emotional commitment to the organization, so that the success of the company is also seen as personal success. Based on the fundamental assumption that managers can be trusted to act in the best interests of the organization, this theory emphasizes trust and empowerment rather than strict control. In relation to financial performance, stewardship theory implies that highly dedicated managers will promote efficiency, profitability, and stability of the company, while reducing agency costs due to minimal need for external supervision.

Green Accounting

The concept of green accounting began to develop in Europe in the 1970s, influenced by The Limits to Growth report and increasing concern for sustainable natural resource management (Yunita et al., 2024). Green accounting is defined as an accounting system that integrates environmental costs and benefits into the financial recording and reporting process, so that business decisions can take ecological consequences into account (Lauren et al., 2024; Safitriana et al., 2025). This approach allows companies to report not only their financial performance but also their commitment to environmental preservation and regulatory compliance, in line with stakeholder theory, which emphasizes responsibility towards capital owners, the community, the government, and the environment. Practically, the implementation of green accounting enhances transparency, operational efficiency, and stakeholder trust. Thus, green accounting is not only a symbol of environmental concern but also a business strategy that strengthens the company's performance and competitiveness in a sustainable manner.

Green Intellectual Capital

ISSN 3090-6326
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Green intellectual capital is an extension of the concept of intellectual capital that not only focuses on knowledge and intangible assets but also integrates concern for the environment. This concept consists of green human capital, green structural capital, and green relational capital, which together promote sustainable business practices. According to Chen (2008), green intellectual capital plays an important role in creating economic value while supporting environmental sustainability. In line with this, research by Anggriani & Dewi (2021) shows that green intellectual capital has a positive effect on financial performance, because companies that implement environmentally friendly innovations are able to improve their reputation and competitiveness. Thus, green intellectual capital is seen as a strategic asset that needs to be managed optimally to improve company performance in a sustainable manner.

Financial Performance

Financial performance is a measure of a company's effectiveness in managing financial resources to achieve its objectives. Performance assessments are usually reflected in financial reports that provide an overview of the company's profitability, liquidity, solvency, and activities. One of the most widely used indicators is return on assets, as it reflects the company's efficiency in utilizing assets to generate profits. According to Brigham & Houston (2019), return on assets can provide a comprehensive picture of the success of managers in managing company assets. Oktaviyah (2024) research also confirms that return on assets is important as a signal of a company's efficiency and prospects to investors. With good financial performance, a company not only demonstrates operational success, but also builds market confidence and supports business sustainability.

Managerial ownership

Managerial ownership is the ownership of shares by managers, which serves to reduce conflicts of interest between management and shareholders (Jensen & Meckling, 1976). This ownership encourages managers to act in line with shareholder interests and consider the company's long-term goals (Fama & Jensen, 1983). In addition, managerial share ownership sends a positive signal to the market regarding their confidence in the company's prospects (Ross et al., 2008). From the perspective of legitimacy theory, managerial ownership reflects managers' responsibility to manage the company transparently and in accordance with social norms. Thus, managerial ownership not only reduces agency conflicts but also strengthens legitimacy and ultimately improves the company's financial performance.

Hypotheses development

Green accounting is an accounting approach that integrates environmental aspects into financial reports, including waste management costs, energy efficiency, emissions control, and environmentally friendly investments. Based on stakeholder theory, companies are not only obliged to maximize profits, but also fulfill their social and environmental responsibilities to gain legitimacy from stakeholders. The application of green accounting promotes transparency, operational efficiency, and a positive image, which ultimately increases company profitability. Research by Dewi & Muslim (2022) shows that green accounting can reduce operational costs and improve financial performance. Similar findings were also revealed by Budi et al. (2023), Dianty & Nurrahim (2022), and Yulianingsih & Wahyuni (2023),

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who all stated that the application of green accounting has a positive effect on financial performance. Based on the theoretical review and previous research results, the hypothesis proposed is:

H1: Green accounting has a positive effect on financial performance.

Green intellectual capital is a development of the concept of intellectual capital that integrates environmental sustainability principles into its three components, namely green human capital, green structural capital, and green relational capital (Chen, 2008). From a sustainability theory perspective, these three elements play a role in creating a balance between economic, social, and environmental objectives. Green human capital drives environmentally friendly innovation, green structural capital supports process efficiency through sustainable systems and technologies, while green relational capital builds trust with stakeholders through green business practices. This combination enables companies to improve cost efficiency, reputation, and competitiveness, which has a positive impact on financial performance. Trisari & Indarti (2024) prove that green intellectual capital can improve cost efficiency and sustainable innovation. In line with this, research by Anggriani & Dewi (2021), Himmah et al. (2024), Yuliandhari & Ramadhanty (2024), Putri & Murtanto (2023), and Sahid & I (2023) also found a positive effect of green intellectual capital on financial performance in various industrial sectors. Based on the theoretical review and previous research, the hypothesis proposed is:

H2: Green intellectual capital has a positive effect on financial performance.

Managerial ownership is a condition in which company managers also own shares, so that they act not only as managers but also as owners who directly feel the impact of strategic decisions. Within the framework of legitimacy theory, this encourages managers to be more careful in managing the company, maintaining its reputation, and building stakeholder trust, because the company's success also has an impact on their personal financial interests. Thus, managerial ownership can strengthen internal motivation to improve financial performance. In line with this, research by Monika & Hartono (2023), Nasution et al. (2024), Sahid & I (2023), Wicaksono & Fauzan (2024) and Amiyanto & Riduwan (2022) shows that managerial ownership has a positive effect on financial performance. Based on this description, the following hypothesis is formulated:

H3: Managerial ownership has a positive effect on financial performance.

Green accounting is an accounting approach that internalizes environmental aspects into financial reports, so that companies not only pursue financial profits, but also consider energy efficiency, waste management, and carbon emissions. This practice supports stakeholder theory because it is able to meet the expectations of the public and investors through transparency and environmental accountability. However, the effectiveness of green accounting is often influenced by internal factors, one of which is managerial ownership. Managers who own shares will be more committed to ensuring that green accounting practices are actually implemented, not only administratively, but also in terms of efficiency and reputation, which improve financial performance. Research by Budi et al. (2023), Dianty & Nurrahim (2022), and Yulianingsih & Wahyuni (2023) supports the positive influence of green

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accounting on financial performance, while Monika & Hartono (2023), Nasution et al. (2024), and Wicaksono & Fauzan (2024) prove the positive effect of managerial ownership on financial performance. Thus, managerial ownership is seen to strengthen the relationship between green accounting and financial performance. The hypothesis proposed is:

H4: Managerial ownership strengthens the effect of green accounting on financial performance.

Green intellectual capital is a form of intellectual capital management that focuses on environmental sustainability through green human capital, green structural capital, and green relational capital (Chen, 2008). This concept is in line with sustainability theory because it encourages environmentally friendly innovation, operational efficiency, and stakeholder trust, which ultimately improves financial performance. However, its effectiveness is greatly influenced by internal leadership. Managerial ownership is a key factor because managers who are also owners have a direct interest in ensuring that green intellectual capital truly benefits the company while maintaining legitimacy in the public eye. Research by Anggriani & Dewi (2021); Himmah et al. (202), Putri & Murtanto (2023), Sahid & I (2023), and Yuliandhari & Ramadhanty, (2024) shows the positive influence of green intellectual capital on financial performance, while Amiyanto & Riduwan (2022) and Yulianingsih & Wahyuni (2023) prove the positive role of managerial ownership. Based on this description, the research hypothesis is:

H5: Managerial ownership strengthens the influence of green intellectual capital on financial performance.

RESEARCH METHOD

This study uses quantitative data with a panel data approach, which is a combination of time series (2021–2024 period) and cross section (industrial sector companies listed on the IDX). The data used is secondary data, obtained from annual reports, sustainability reports, as well as official publications from the Indonesia Stock Exchange (IDX) and company websites. The research population consists of all industrial sector companies listed on the IDX in the 2021–2024 period, totaling 69 companies. The sample was determined using purposive sampling with the following criteria:

1. Industrials sector companies listed on the IDX during the 2021–2024 period.
2. Companies that consistently published annual reports during the 2021–2024 period.
3. Companies that published sustainability reports during the 2021–2024 period.

Based on these criteria, 41 companies were selected as samples, with the unit of analysis being the company. The following are the variable measurements:

Table 1. Operationalization of Research Variabel

Type	Variable	Dimension / Formula	Source
Independent Variables	Green Accounting	Green Accounting 0 = the company does not have CSR costs in its annual report 1 = the company has CSR costs in its annual report	(Dianty & Nurrahim, 2022)

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Type	Variable	Dimension / Formula	Source
	Green Intellectual Capital	$GIC = \frac{N}{K}$ Description: GIC: Green Intellectual Capital N: Total number of GIC items disclosed by the entity	(Huang & Kung, 2011)
Dependent Variable	Financial Performance	Return on Assets $= \frac{\text{Net profit after tax}}{\text{Total asset}}$ x 100%	(Himmah et al., 2024)
Moderating Variable	Managerial Ownership	$= \frac{\text{Number of shares owned by management}}{\text{Number of shares outstanding}}$ x 100%	(Yulianingsih & Wahyuni, 2023)

The data analysis method used is panel data regression because it is capable of combining cross-sectional and time series variations. This study compares three estimation models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The selection of the best model is done using the Chow Test, Hausman Test, and Lagrange Multiplier Test. To test the hypotheses, the coefficient of determination (R^2) test, F test, and t test were used.

This study uses two models to examine the effect of independent variables and the role of moderation, namely:

Model 1

$$FP=\beta0 + \beta1GA + \beta2GIC + \beta2MO + \varepsilon$$

Model 2

$$FP=\beta0 + \beta1GA*MO + \beta2GIC *MO + \varepsilon$$

Model 1 tests the direct effect of green accounting, green intellectual capital, and managerial ownership on financial performance, while Model 2 tests whether managerial ownership can strengthen or weaken the effect of green accounting and green intellectual capital on financial performance. Thus, a comparison of the two models provides a more comprehensive understanding of the direct effects and interactions of the variables.

RESULTS

Table 2. Descriptif

	GA	GIC	FD	MO
Mean	0.810976	0.782518	0.047468	0.093715
Median	1.000000	0.777800	0.038650	0.000500
Maximum	1.000000	1.000000	0.363600	0.750000
Minimum	0.000000	0.500000	-0.191100	0.000000
Std. Dev.	0.392727	0.103583	0.075679	0.190241
Observations	164	164	164	164

Source: Output Eviews 9

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Description: GA: Green Accounting; GIC: Green Intellectual Capital; FP: Financial Performance; MO: Managerial Ownership.

Descriptive statistics show that the average green accounting score is 0.811, which means that most companies in the sample have reported CSR costs in their annual reports. The average green intellectual capital score is 0.783, with a minimum value of 0.500 and a maximum of 1.000, indicating that the level of green intellectual capital disclosure is relatively high and tends to be uniform across companies.

Financial performance, proxied by return on assets, has an average of 0.047 or 4.7%, with a maximum value of 0.364 and a minimum of –0.191. This shows that there are companies that suffered losses during the research period. Meanwhile, managerial ownership has an average of 0.094 (9.4%), but the median value is only 0.0005, which means that most industrial companies have a very low level of managerial ownership, although there are several companies with managerial ownership of up to 75%.

Selection of the Best Panel Data Model

The criteria for making Chow test decisions are as follows:

1. If the probability (Prob) on Cross Section F < 0.05 then a better model is Fixed effect
2. If the probability (Prob) on Cross Section F > 0.05 then a better model is Common Effect

Table 3. Chow Test (Model 1)

Effects Test	Statistic	d.f.	Prob.
Cross-section F	12.694906	(40,120)	0.0000
Cross-section Chi-square	271.374718	40	0.0000

Source: Output Eviews 9

Table 4. Chow Test (Model 2)

Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.516773	(40,121)	0.0000
Cross-section Chi-square	245.814375	40	0.0000

Source: Output Eviews 9

Based on the results of the Chow test using EViews 9, the cross-section probability value of models 1 and 2 is 0.0000, which is less than the significance level (α=0.05). This means that the best model to use is the Fixed Effect Model (FEM). Therefore, a Hausman test is needed in order to choose the best model between the Fixed Effect Model (FEM) and the Random Effect Model (REM).

The criteria for making a Hausman test decision are as follows:

1. If Probability (Prob) < 0.05, then a better model is Fixed effect
2. If Probability (Prob) > 0.05, then a better model is Random effect

Table 5. Hausman Test (Model 1)

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Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	11.111453	3	0.0111

Source: Output Eviews 9

Table 6. Hausman Test (Model 2)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.442975	2	0.0147

Source: Output Eviews 9

Based on the results of the Hausman test using EViews 9, the probability value of cross section F model 1 is 0.0111 and model 2 is 0.0147, which is less than the significance level (α=0.05). This means that the best model to use is the Fixed Effect Model (FEM).

Panel Data Regression Analysis

Table 7. Panel Data Regression Analysis (Model 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.152654	0.053099	-2.874877	0.0048
GA	-0.011007	0.019791	-0.556155	0.5791
GIC	0.239360	0.068523	3.493162	0.0007
MO	0.232020	0.043008	5.394865	0.0000

Source: Output Eviews 9

The results of panel data regression estimation using the Fixed Effect Model (FEM) show the results of testing with panel data regression, from which the following model equation is obtained.

Table 8. Panel Data Regression Analysis (Model 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.029408	0.005542	5.306130	0.0000
GA*MO	-0.098513	0.056174	-1.753716	0.0820
GIC*MO	0.340504	0.062395	5.457197	0.0000

Source: Output Eviews 9

The results of panel data regression estimation using the Fixed Effect Model (FEM) show the results of testing with panel data regression, from which the following model equation is obtained.

Determination Coefficient Test (R-Square)

Table 9. Coefficient of Determination Test (Model 1)

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R-squared	0.819396	Mean dependent var	0.047468
Adjusted R-squared	0.754679	S.D. dependent var	0.075679
S.E. of regression	0.037484	Akaike info criterion	-3.505612
Sum squared resid	0.168603	Schwarz criterion	-2.673940
Log likelihood	331.4602	Hannan-Quinn criter.	-3.167985
F-statistic	12.66132	Durbin-Watson stat	2.219020
Prob(F-statistic)	0.000000		

Source: Output Eviews 9

R-Squared value of 0.819396 indicates that 81.94% of the variation in financial performance can be explained by green accounting, green intellectual capital, and managerial ownership.

Table 10. Coefficient of Determination Test (Model 2)

R-squared	0.807409	Mean dependent var	0.047468
Adjusted R-squared	0.740559	S.D. dependent var	0.075679
S.E. of regression	0.038547	Akaike info criterion	-3.453543
Sum squared resid	0.179794	Schwarz criterion	-2.640774
Log likelihood	326.1906	Hannan-Quinn criter.	-3.123590
F-statistic	12.07793	Durbin-Watson stat	2.094762
Prob(F-statistic)	0.000000		

Source: Output Eviews 9

R-Squared value of 0.807409 indicates that 80.74% of the variation in financial performance can be explained by green accounting, green intellectual capital, and managerial ownership.

Partial Test (T-Test)

Table 11. Partial Test (Model 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.152654	0.053099	-2.874877	0.0048
GA	-0.011007	0.019791	-0.556155	0.5791
GIC	0.239360	0.068523	3.493162	0.0007
MO	0.232020	0.043008	5.394865	0.0000

Source: Output Eviews 9
Description: GA: Green Accounting; GIC: Green Intellectual Capital; FP: Financial Performance; MO: Managerial Ownership.

Based on regression testing using the Fixed Effect Model (FEM), the results can be summarized as follows:

1. Green accounting has a probability value of 0.5791 (> 0.05) with a negative coefficient, meaning that green accounting has a negative effect but is not statistically significant on

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financial performance.

2. Green intellectual capital has a probability value of 0.0007 (< 0.05) with a positive coefficient, meaning that green intellectual capital has a positive and statistically significant effect on financial performance.
3. Managerial ownership has a probability value of 0.0000 (< 0.05) with a positive coefficient, meaning that managerial ownership has a positive and statistically significant effect on financial performance.

Table 12. Partial Test (Model 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.029408	0.005542	5.306130	0.0000
GA*MO	-0.098513	0.056174	-1.753716	0.0820
GIC*MO	0.340504	0.062395	5.457197	0.0000

Source: Output Eviews 9
Description: GA*MO: Moderation of Managerial Ownership on Green Accounting; GIC*MO: Moderation of Managerial Ownership on Green Intellectual Capital.

Based on regression testing using the Fixed Effect Model (FEM), the results can be summarized as follows:

1. The interaction between green accounting and managerial ownership has a probability value of 0.0820 (> 0.05), which means that Managerial Ownership does not significantly moderate the effect of green accounting on financial performance.
2. The interaction between green intellectual capital and mangerial ownership has a probability value of 0.0000 (< 0.05), which means that managerial ownership significantly strengthens the effect of green intellectual capital on financial performance.

DISCUSSIONS

Green Accounting has no effect on Financial Performance

The results of the first hypothesis test show that green accounting has a negative but insignificant effect on financial performance, so (H1) is rejected. This condition indicates that the implementation of green accounting in industrial sector companies during the 2021–2024 period has not made a significant contribution to improving financial performance. From the perspective of stakeholder theory, green accounting should improve resource efficiency and company reputation. However, according to agency theory, managers tend to be more short-term oriented, so green accounting is considered an additional cost burden, especially during the post-pandemic recovery period when cash efficiency is prioritized.

These findings are consistent with the research by Angelina & Nursasi (2021) and Majidah & Aryanty (2022), which states that green accounting is still viewed as a cost rather than a strategic investment, so its financial impact is not yet significant. Conversely, research by Dianty & Nurrahim (2022) and Yulianingsih & Wahyuni (2023) in the mining sector shows different results, where green accounting has a significant positive effect due to high exposure

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to environmental risks that require more strategic implementation. This difference confirms that the effectiveness of green accounting is greatly influenced by sector characteristics, the level of environmental risk, and the company's motivation, whether it is merely to comply with regulatory obligations or to make it part of a long-term business strategy.

Green Intellectual Capital has a positive impact on Financial Performance

The test results show that Green Intellectual Capital has a positive and significant effect on financial performance, thus accepting the second hypothesis (H2). This means that the better the management of green human capital, green structural capital, and green relational capital, the greater its contribution to improving efficiency, environmentally friendly innovation, and corporate legitimacy. This supports the sustainability theory which emphasizes that sustainable business strategies are not only profit-oriented, but also balance economic, social, and environmental aspects. Thus, green intellectual capital can be viewed as a strategic asset that not only supports sustainability, but also strengthens the company's financial performance.

These findings are consistent with the research of Anggriani & Dewi (2021), Himmah et al. (2024), Putri & Murtanto (2023), and Yuliandhari & Ramadhanty (2024), who all found that green intellectual capital provides tangible benefits to companies through cost efficiency, clean innovation, and positive signals to investors. With green intellectual capital integration, companies are able to build long-term competitiveness while increasing profitability, so that investment in green intellectual capital can be seen as an important foundation for business resilience and sustainable financial performance.

Managerial Ownership has a positive effect on Financial Performance

The test results show that managerial ownership has a positive and significant effect on financial performance, thus accepting the third hypothesis (H3). This means that the greater the number of shares owned by managers, the stronger their motivation to improve company performance because management interests are aligned with shareholder interests. This is in line with legitimacy theory, in which management share ownership is seen as a form of commitment to maintaining the company's reputation and sustainability, as well as strengthening stakeholder trust. From the stewardship theory perspective, managers who are also owners tend to make more responsible decisions because they share the risks and rewards. Meanwhile, according to signaling theory, an increase in share ownership by managers sends a positive signal to investors regarding the company's prospects.

These findings are consistent with the research of Amiyanto & Riduwan (2022), Nasution et al. (2024), Wicaksono & Fauzan (2024), and Yulianingsih & Wahyuni (2023), which show that managerial ownership can drive efficiency improvements, strengthen commitment to long-term goals, and generate better financial performance. Thus, managerial ownership can be viewed as an effective internal governance mechanism, as it aligns the interests of management and shareholders, strengthens corporate legitimacy, and ultimately contributes to improved sustainable financial performance.

Managerial Ownership does not strengthen the influence of Green Accounting on Financial Performance.

The test results show that managerial ownership does not strengthen the influence of

ISSN 3090-6326

green accounting on financial performance, thus rejecting the fourth hypothesis (H4). This condition occurs because green accounting practices are still viewed as a cost burden that suppresses short-term profitability, while managers with share ownership tend to be oriented towards immediate financial results rather than the long-term benefits of sustainability. Thus, although managerial ownership has a positive effect on financial performance, this variable is not yet effective in encouraging green accounting to become a strategy for improving corporate financial performance.

These findings are in line with the research by Angelina & Nursasi (2021) and Majidah & Aryanty (2022), which states that the high cost of implementing green accounting, such as investing in environmentally friendly technology and reporting systems, means that the economic benefits are not yet significantly felt. In addition, the results of Irsyad (2022) research also support this finding, where managerial ownership can actually have a negative impact on financial performance due to the low proportion of managerial share ownership and the still strong orientation towards short-term profits. This confirms that managerial ownership has not been able to align internal economic interests with the goal of social legitimacy through green accounting practices.

Managerial Ownership strengthens the influence of Green Intellectual Capital on Financial Performance

The results of the fifth hypothesis (H5) testing show that managerial ownership strengthens the influence of green intellectual capital on financial performance, thus acting as a quasi-moderator. This means that managers who are also owners are more motivated to make optimal use of green human capital, structural capital, and relational capital, because their direct financial interests make them focus on green innovation, efficiency, and corporate legitimacy, which have an impact on improving financial performance.

This finding is in line with the research by Anggriani & Dewi (2021), Himmah et al. (2024), and Yuliandhari & Ramadhanty (2024), which proves that green intellectual capital improves efficiency, innovation, and environmental risk management. Meanwhile, Nasution et al. (2024) and Yulianingsih & Wahyuni (2023) emphasize that managerial ownership encourages strategic management responsibility. Thus, the combination of green intellectual capital and managerial ownership is an Important factor in strengthening the competitiveness and financial performance of companies in the industrial sector.

CONCLUSIONS

The results of this study indicate that green accounting has a negative but insignificant effect on financial performance, suggesting that the implementation of green accounting has not yet been able to contribute directly to corporate profitability. Conversely, green intellectual capital has a positive and significant effect on financial performance, and managerial ownership also has a positive and significant effect, emphasizing the importance of environment-based innovation and management involvement as shareholders in driving financial performance. Furthermore, managerial ownership has not been proven to strengthen the influence of green accounting on financial performance, but it does strengthen the influence of green intellectual capital, so that the dual role of managers as owners and managers is more

ISSN 3090-6326
Journal of Applied Accounting and Sustainable Finance
https://ojs.azzukhrufcendikia.or.id/index.php/aasf
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effective in optimizing green intellectual capital than green accounting practices.

Theoretical Implications

This study contributes to the academic literature by enriching discussions on the relationship between green accounting, green intellectual capital, and financial performance, particularly in developing countries. The findings highlight that green accounting has not yet shown a consistent financial impact, while green intellectual capital significantly improves performance, opening new debates on the quality of ESG implementation in the industrials sector.

Managerial Implications

For industrial sector companies, the findings emphasize the need to integrate green accounting into core business strategies rather than treating it as a compliance tool. The significant role of green intellectual capital suggests that developing environmentally conscious human resources and systems is a strategic necessity. Furthermore, aligning managerial ownership with sustainability goals through ESG based incentives can enhance both performance and long-term value creation.

Policy Implications

For regulators, the results show that current sustainability reporting has yet to fully translate into improved financial outcomes. This underlines the importance of not only mandating disclosure but also ensuring its quality and relevance. Incentives, stricter reporting guidelines, and stronger ESG literacy programs are needed to strengthen corporate readiness for the green economy transition.

Suggestions for Future Research

Future studies are encouraged to: (1) adopt more comprehensive ESG-based measurement indicators, (2) expand the research scope to other sectors and longer periods, (3) apply mixed-methods to capture contextual insights, (4) add firm-level and external control variables, and (5) explore the moderating/mediating roles of institutional ownership, corporate governance, or organizational culture in the relationship between green accounting, green intellectual capital, and financial performance.

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