Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7, 256-271
2026
Publisher: Learning Gate
DOI: 10.55214/2576-8484.v10i7.13367

The nexus between corporate sustainability initiatives and audit opinion formulation: Elucidating the mediating function of financial reporting quality

Martinus Budiantara[1*], Mulyanto Nugroho[2], Maria Yovita R. Pandin[3]
[1,2,3]Faculty of Economics and Business, Universitas 17 Agustus 1945 Surabaya, Indonesia; budiantara@mercubuana-yogya.ac.id (M.B.) nugroho@untag-sby.ac.id (M.N.) yovita_87@untag-sby.ac.id (M.Y.R.P.).

Abstract: This study examines the effect of sustainability practices on audit opinions by positioning financial reporting quality as a mediating mechanism. Specifically, the study investigates whether sustainability reporting, carbon emission disclosures, and sustainability performance influence audit opinions directly and indirectly through financial reporting quality among energy-sector companies listed on the Indonesia Stock Exchange for the period 2022–2024. A quantitative explanatory design was employed, utilizing secondary data obtained from annual reports, sustainability reports, and audited financial statements. The sample comprised 67 companies selected through purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that sustainability reporting and sustainability performance significantly enhance financial reporting quality, whereas carbon-emission disclosures do not. Furthermore, sustainability reporting and carbon-emission disclosures exert significant positive effects on audit opinions, whereas sustainability performance exhibits no direct influence. Financial reporting quality has a significant positive effect on audit opinions and differentially mediates the relationship between sustainability practices and audit opinions. Specifically, the results indicate partial mediation for sustainability reporting, full mediation for sustainability performance, and no mediation for carbon-emission disclosures. This study contributes to the auditing and sustainability literature by demonstrating that distinct sustainability dimensions operate through varying audit-related mechanisms within an emerging-market context.

Keywords: *Audit opinion, Carbon emission disclosure, Financial reporting quality, SEM-PLS, Sustainability performance, Sustainability reporting.*

1. Introduction

Sustainability has become a central issue in contemporary business practice. Firms are no longer evaluated solely on their ability to generate financial returns; they are also expected to demonstrate responsibility for environmental and social impacts. Growing public concern over climate change, regulatory pressure, and investor demand for transparent nonfinancial information have encouraged firms to disclose sustainability-related activities more systematically. In this context, sustainability reporting has become an important mechanism through which organizations communicate accountability to stakeholders and strengthen organizational legitimacy [1, 2].

Within sustainability reporting, carbon emission disclosure has gained particular relevance for companies operating in environmentally sensitive sectors. Carbon-related information provides specific evidence of how firms identify, measure, and manage climate-related risks. For energy sector companies, this disclosure is especially important because stakeholders increasingly require credible information about emissions, mitigation strategies, and environmental commitments [3-6]. Meanwhile, sustainability performance reflects the extent to which sustainability strategies are implemented in organizational

History: Received: 1 May 2026; Revised: 1 July 2026; Accepted: 6 July 2026; Published: 24 July 2026
* Correspondence: budiantara@mercubuana-yogya.ac.id

processes, policies, and outcomes. High sustainability performance may signal better governance, stronger internal control, and greater accountability to stakeholders [7].

The relationship between sustainability practices and audit outcomes is theoretically important because an audit opinion represents an independent assessment of the fairness of financial statements. Auditors do not only evaluate accounting figures; they also consider reporting quality, transparency, risk exposure, and the credibility of information produced by management [8]. Transparent sustainability disclosure may serve as a positive signal of organizational integrity, while strong sustainability performance may reflect a governance environment that supports reliable reporting. Nevertheless, previous studies have produced mixed evidence regarding whether sustainability practices directly influence audit opinion [9].

A major limitation of prior research is that sustainability practices are often examined as direct predictors of audit opinion, without sufficient attention to the mechanism through which these practices shape auditor judgment. In practice, the effect of sustainability reporting, carbon emission disclosure, and sustainability performance on audit opinion may depend on the quality of financial information. Financial-reporting quality can function as a bridge between sustainability-oriented practices and audit outcomes because it reflects the reliability, relevance, and faithful representation of accounting information [9].

This study addresses this gap by examining the mediating role of financial reporting quality in the relationship between sustainability practices and audit opinion. The study focuses on energy sector companies listed on the Indonesia Stock Exchange during 2022–2024, a context in which sustainability issues and environmental accountability are highly relevant. By integrating sustainability reporting, carbon emission disclosure, sustainability performance, financial reporting quality, and audit opinion into a single empirical model, this study provides a more comprehensive explanation of how sustainability-related practices influence audit outcomes in an emerging market.

The study aims to answer three research questions: (1) Do sustainability reporting, carbon-emission disclosure, and sustainability performance influence financial-reporting quality? (2) Do these sustainability practices directly influence audit opinion? (3) Does financial-reporting quality mediate the relationship between sustainability practices and audit opinion? The contribution of this study lies in demonstrating that different dimensions of sustainability may affect audit opinion through distinct mechanisms. Sustainability reporting may operate both directly and indirectly; carbon-emission disclosure may function mainly as a direct signal to auditors; and sustainability performance may influence audit opinion through improved financial-reporting quality.

2. Literature Review

This study is grounded in legitimacy theory, stakeholder theory, and agency theory. Legitimacy theory explains that firms disclose sustainability information to align organizational activities with social expectations and maintain acceptance from the wider community [10]. Stakeholder theory emphasizes that firms are accountable not only to shareholders but also to broader stakeholder groups, including regulators, creditors, employees, communities, and environmental stakeholders [11]. Agency theory suggests that higher-quality reporting reduces information asymmetry between managers and external users, thereby supporting more reliable audit assessments [8, 12].

Sustainability reporting refers to the disclosure of economic, environmental, and social information in a structured report. Comprehensive sustainability reporting can improve transparency, strengthen accountability, and demonstrate the organization's commitment to responsible business practices [13]. From the perspective of reporting quality, sustainability reporting may encourage firms to develop stronger internal reporting systems and governance mechanisms. Therefore, companies with higher sustainability disclosure are expected to produce higher-quality financial reports [1, 14].

Carbon emission disclosure is a more specific form of environmental transparency. It provides information about emission levels, emission-reduction policies, climate-related risks, and mitigation strategies. Such disclosure may signal environmental responsibility and risk awareness [3]. However, because carbon disclosure focuses on a particular environmental dimension, its relationship with financial

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

reporting quality may not always be direct. Firms may disclose carbon-related information to satisfy external expectations without necessarily improving the reliability of accounting information [15]

Sustainability performance reflects the actual implementation of sustainability strategies in environmental, social, and governance practices. Firms with strong sustainability performance tend to have better governance structures, stronger internal controls, and more disciplined reporting processes. These characteristics are expected to support financial reporting quality because sustainability-oriented firms generally invest in systems that improve accountability and monitoring [5, 7].

An audit opinion is the auditor's formal conclusion regarding whether financial statements are presented fairly in accordance with applicable accounting standards. An unmodified audit opinion indicates that the financial statements are considered fairly presented in all material respects. Auditors may consider sustainability-related information when assessing risk, transparency, governance, and reporting credibility. Consequently, sustainability reporting and carbon-emission disclosure may influence audit opinion by providing additional signals regarding corporate accountability and risk management [8, 9, 16].

Financial reporting quality is expected to play a central mediating role. High-quality financial reports provide reliable, relevant, and decision-useful information, which can increase auditor confidence and improve the likelihood of an unmodified opinion. If sustainability practices improve financial reporting quality, they may indirectly influence audit opinion through this reporting mechanism. This study, therefore, proposes that financial reporting quality mediates the effects of sustainability reporting, carbon emission disclosure, and sustainability performance on audit opinion [1, 8, 17].

2.1. Carbon Emission Disclosure and Financial Reporting Quality

The disclosure of carbon emissions elucidates organizational transparency pertaining to climate-related vulnerabilities. Corporate entities that disseminate such environmental metrics inherently demonstrate a heightened commitment to rigorous accountability and sophisticated risk-management frameworks. Recent studies indicate that carbon- and climate-related disclosure can strengthen corporate transparency and reduce information asymmetry, particularly in environmentally sensitive sectors [1]. However, the degree to which this transparency improves financial-reporting quality depends on whether environmental disclosures are integrated into the company's financial-reporting system. Firms may disclose carbon-related information to respond to stakeholder pressure, but such disclosure does not always directly improve accounting reliability or accrual quality. Therefore, carbon-emission disclosure is expected to support financial-reporting quality when it is accompanied by strong internal control and reporting governance [18].

H_1. Carbon emission disclosure has a positive effect on financial reporting quality.

2.2. Sustainability Reporting and Financial Reporting Quality

Sustainability reporting provides a comprehensive communication channel for economic, environmental, and social information. Firms with more extensive sustainability reporting are expected to have stronger disclosure processes, better internal information systems, and more disciplined governance mechanisms. Sustainability disclosure plays an important role in improving financial reporting quality, indicating that broader sustainability disclosure may encourage firms to enhance transparency and reduce opportunistic reporting behavior [1]. Similarly, Ferreira et al. [17] showed that sustainability reporting is associated with accounting information quality, particularly through the improvement of earnings persistence and reporting usefulness. Thus, companies with more comprehensive sustainability reporting are expected to produce higher-quality financial information.

H_2. Sustainability reporting has a positive effect on financial reporting quality.

2.3. Sustainability Performance and Financial Reporting Quality

Sustainability performance represents the real implementation of sustainability strategies. Strong sustainability performance may reflect better governance, stronger control systems, and greater

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

accountability. Khan et al. [5] demonstrated that material sustainability performance is relevant to corporate outcomes because sustainability practices reflect the firm's ability to manage economically significant environmental, social, and governance issues. In addition, recent ESG-related studies suggest that firms with stronger ESG or sustainability performance tend to have better governance structures and lower information risk [19, 20]. Therefore, firms with better sustainability performance are expected to develop more reliable financial reporting systems.

H_3. Sustainability performance has a positive effect on financial reporting quality.

2.4. Sustainability Reporting and Audit Opinion

Sustainability reporting may serve as a positive signal to auditors because it reflects transparency and organizational accountability. Firms with stronger disclosure may be perceived as lower-risk entities because they provide broader information to stakeholders and demonstrate a stronger commitment to accountability. Recent evidence shows that sustainability and ESG disclosure are increasingly relevant to audit-related assessments, especially when such disclosure improves transparency and reduces information risk [16, 21]. Therefore, sustainability reporting may support audit-opinion formulation by providing additional evidence regarding corporate governance quality and reporting credibility.

H_4. Sustainability reporting has a positive effect on audit opinion.

2.5. Carbon Emission Disclosure and Audit Opinion

Carbon emission disclosure communicates the firm's awareness of environmental risk and climate accountability. This information can be considered by auditors when assessing risk exposure, corporate transparency, and reporting credibility. Bui et al. [18] showed that climate change disclosure is relevant to firm value because it provides stakeholders with information about environmental risk management. In audit contexts, environmental disclosure may help auditors assess whether companies are sufficiently transparent in communicating risks that may influence business continuity and financial reporting. Therefore, carbon emission disclosure is expected to have a positive effect on audit opinion.

H_5. Carbon emission disclosure has a positive effect on audit opinion.

2.6. Sustainability Performance and Audit Opinion

Companies with better sustainability performance may have stronger governance and lower stakeholder-related risk. These characteristics may increase auditor confidence in the firm's reporting environment. Wang et al. [19] found that better ESG performance reduces the probability of modified audit opinions, suggesting that auditors may consider ESG performance when evaluating reporting risk. Diab and Eissa [21] also found that firms with stronger ESG performance are more likely to appoint Big Four auditors and less likely to receive qualified audit opinions. Therefore, sustainability performance is expected to contribute positively to audit opinion formulation.

H_6. Sustainability performance has a positive effect on audit opinion.

2.7. Financial Reporting Quality and Audit Opinion

Financial reporting quality is a primary consideration in audit judgment. Higher-quality financial information reduces the risk of material misstatement and supports the issuance of an unmodified audit opinion. Abed et al. [22] emphasized that financial reporting quality is closely linked to governance and audit-committee effectiveness, particularly in reducing creative accounting practices. In addition, ESG and audit studies indicate that higher financial reporting quality can reduce audit risk and improve the likelihood of favorable audit opinions [19, 21]. Therefore, financial reporting quality is expected to positively influence audit opinion.

H_7. Financial reporting quality has a positive effect on audit opinion.

2.8. The Mediating Role of Financial Reporting Quality

Financial reporting quality may explain how sustainability practices influence audit opinion. Firms with stronger sustainability practices may develop more reliable reporting systems, stronger governance

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

mechanisms, and better internal control structures, which then affect auditor judgment. Previous studies indicate that sustainability reporting and ESG performance may improve reporting credibility and reduce information asymmetry [1, 18, 19]. Therefore, financial reporting quality is expected to mediate the relationship between sustainability initiatives and audit opinion. In this context, sustainability reporting, carbon-emission disclosure, and sustainability performance may influence audit opinion indirectly when they strengthen the quality of financial information used by auditors.

H_{8}: Financial reporting quality mediates the effect of sustainability reporting on audit opinion.
H_{9}: Financial reporting quality mediates the effect of carbon emission disclosure on audit opinion.
H_{10}: Financial reporting quality mediates the effect of sustainability performance on audit opinion.

2.9. Hypotheses and Theoretical Framework

H_{1}: Carbon emission disclosure has a positive effect on financial reporting quality.
H_{2}: Sustainability reporting has a positive effect on financial reporting quality.
H_{3}: Sustainability performance has a positive effect on financial reporting quality.
H_{4}: Sustainability reporting has a positive effect on audit opinion.
H_{5}: Carbon emission disclosure has a positive effect on audit opinion.
H_{6}: Sustainability performance has a positive effect on audit opinion.
H_{7}: Financial reporting quality has a positive effect on the audit opinion.
H_{8}: Financial reporting quality mediates the effect of sustainability reporting on audit opinion.
H_{9}: Financial reporting quality mediates the effect of carbon-emission disclosure on audit opinion.
H_{10}: Financial reporting quality mediates the effect of sustainability performance on the audit opinion.

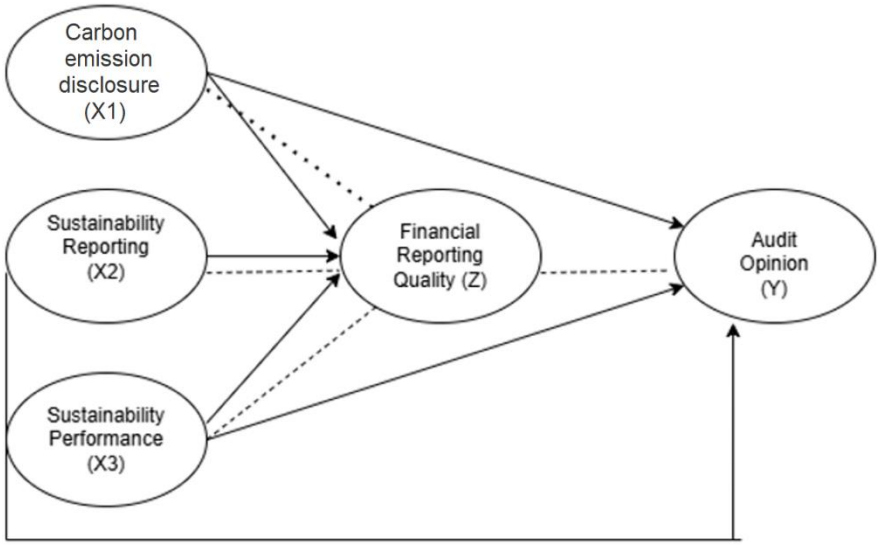

Figure 1.
Theoretical Framework.

3. Methodology

This study uses a quantitative explanatory research design to examine causal relationships among sustainability reporting, carbon emission disclosure, sustainability performance, financial reporting quality, and audit opinion. The quantitative approach is appropriate because the study tests predetermined hypotheses using numerical indicators and statistical analysis [23, 24]. The study employs secondary data obtained from annual reports, sustainability reports, and audited financial statements published by energy-sector companies listed on the Indonesia Stock Exchange. The population consists of 90 energy-

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

sector companies listed on the Indonesia Stock Exchange during the 2022–2024 period. The sample was selected using purposive sampling based on four criteria: companies that published complete annual reports during the research period, companies that disclosed sustainability-related information, companies that provided carbon-emission-related information, and companies with accessible financial-statement and audit-opinion data. Based on these criteria, 67 companies met the requirements and were included in the final sample.

Sustainability reporting was measured using a disclosure index based on the Global Reporting Initiative standards. Carbon emission disclosure was measured using a carbon disclosure index adapted from prior carbon-disclosure studies. Sustainability performance was measured using an index reflecting environmental, social, and governance performance indicators available in corporate reports. Financial reporting quality was measured using an accrual-based approach, in which lower accrual manipulation indicates higher reporting quality. Audit opinion was measured as a dummy variable, with 1 assigned to unmodified opinions and 0 assigned to modified opinions.

Data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). This method was selected because it can estimate complex relationships involving latent constructs and mediation effects simultaneously. The analysis was performed in two stages: evaluation of the structural model using R-squared values, path coefficients, t-statistics, and p-values; and mediation testing using specific indirect effects. A significance level of 5% was used to determine hypothesis support.

4. Result

4.1. Measurement Model Evaluation

Cronbach's alpha, composite reliability (CR), AVE, and discriminant validity were used to verify the constructs' validity and reliability [25]. Every construct showed convergent validity (AVE > 0.640) and high internal consistency (α and CR > 0.919). The model kept items with loadings in the range of 0.719 to 0.905.

Table 1.
Construct Reliability and Validity.

Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Audit Opinion	1.000	1.000	1.000	1.000
Carbon Emission Disclosure	0.957	0.962	0.962	0.611
Financial Reporting Quality	0.895	0.897	0.918	0.614
Sustainability Performance	0.916	0.920	0.932	0.632

Table 1 presents the results of construct reliability and convergent validity testing for the variables used in this study, namely Audit Opinion, Carbon Emission Disclosure, Financial Reporting Quality, and Sustainability Performance. The reliability of the constructs is assessed using Cronbach's Alpha, rho_A, and Composite Reliability, while convergent validity is evaluated through the Average Variance Extracted (AVE). In general, a construct is considered reliable when the values of Cronbach's Alpha and Composite Reliability exceed 0.70, and it is considered to have adequate convergent validity when the AVE value is greater than 0.50.

Based on Table 1, the Audit Opinion construct shows perfect values of 1.000 for Cronbach's Alpha, rho_A, Composite Reliability, and AVE. This indicates that the construct has a very high level of reliability and validity. However, this perfect value may also suggest that Audit Opinion is measured using a single indicator, so its interpretation should be adjusted to the nature of the measurement. In this context, Audit Opinion can still be considered acceptable because all values meet the required criteria.

The Carbon Emission Disclosure construct also demonstrates excellent reliability, with Cronbach's Alpha of 0.957, rho_A of 0.962, and Composite Reliability of 0.962. These results indicate that the indicators forming this construct have strong internal consistency. Furthermore, the AVE value of 0.611

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

is above the minimum threshold of 0.50, meaning that Carbon Emission Disclosure has adequate convergent validity. This shows that the indicators are able to represent the construct effectively.

Financial Reporting Quality has a Cronbach's Alpha value of 0.895, rho_A of 0.897, Composite Reliability of 0.918, and AVE of 0.614. These values indicate that the construct is reliable and valid. The high reliability values show that the indicators are consistent in measuring Financial Reporting Quality, while the AVE value confirms that the construct explains a sufficient proportion of variance in its indicators. Therefore, Financial Reporting Quality is appropriate for further analysis in the structural model.

Sustainability Performance also meets the required measurement criteria, with Cronbach's Alpha of 0.916, rho_A of 0.920, Composite Reliability of 0.932, and AVE of 0.632. These findings indicate that the indicators used to measure Sustainability Performance have strong internal consistency and good convergent validity. The AVE value above 0.50 confirms that the construct is able to capture the meaning of sustainability performance adequately.

Table 2.
Latent Variable Correlations (Fornel-Larcker Criterion).

Constructs	Audit Opinion	Carbon Emission Disclosure	Financial Reporting Quality	Sustainability Performance
Audit Opinion	1.000			
Carbon Emission Disclosure	0.407	0.782		
Financial Reporting Quality	0.455	0.093	0.784	
Sustainability Performance	0.491	0.517	0.457	0.795

Table 2 presents the results of the discriminant validity test using the Fornell-Larcker criterion. This test is used to determine whether each construct in the measurement model is empirically distinct from the other constructs. Discriminant validity is achieved when the square root of the Average Variance Extracted (AVE), shown in the diagonal values, is higher than the correlation values between the construct and other constructs.

Based on Table 2, the Audit Opinion construct has a diagonal value of 1.000, which is higher than its correlations with Carbon Emission Disclosure, 0.407; Financial Reporting Quality, 0.455; and Sustainability Performance, 0.491. This indicates that Audit Opinion has good discriminant validity because the construct is able to represent itself more strongly than its relationships with other constructs.

The Carbon Emission Disclosure construct has a diagonal value of 0.782, which is greater than its correlation with Audit Opinion 0.407, Financial Reporting Quality 0.093, and Sustainability Performance 0.517. This result shows that Carbon Emission Disclosure is empirically different from the other constructs in the model. Therefore, the indicators used to measure Carbon Emission Disclosure are more closely related to their own construct than to other variables.

Furthermore, Financial Reporting Quality has a diagonal value of 0.784, which is higher than its correlations with Audit Opinion 0.455, Carbon Emission Disclosure 0.093, and Sustainability Performance 0.457. This finding confirms that Financial Reporting Quality meets the requirement of discriminant validity. The construct can be considered distinct and does not overlap excessively with the other constructs.

The Sustainability Performance construct also demonstrates adequate discriminant validity, with a diagonal value of 0.795. This value is higher than its correlations with Audit Opinion, 0.491; Carbon Emission Disclosure, 0.517; and Financial Reporting Quality, 0.457. Although Sustainability Performance has a moderate correlation with Carbon Emission Disclosure, the diagonal value remains higher, indicating that both constructs are still statistically distinguishable.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

Table 3.
Discriminant Validity (Heterotrait-Monotrait Ratio - HTMT).

Constructs	Audit Opinion	Carbon Emission Disclosure	Financial Reporting Quality	Sustainability Performance	Sustainability Reporting
Audit Opinion					
Carbon Emission Disclosure	0.408				
Financial Reporting Quality	0.479	0.116			
Sustainability Performance	0.511	0.545	0.500		
Sustainability Reporting	0.531	0.134	0.529	0.602	

Table 3 presents the results of the discriminant validity assessment using the Heterotrait–Monotrait Ratio (HTMT) criterion. HTMT is used to evaluate whether the constructs in the research model are sufficiently different from one another. In general, discriminant validity is considered acceptable when the HTMT value is below 0.90, while a stricter criterion uses a threshold of 0.85. Therefore, lower HTMT values indicate that the constructs do not overlap excessively and can measure different concepts.

Based on Table 3, the relationship between Audit Opinion and the other constructs shows acceptable HTMT values. The HTMT value between Audit Opinion and Carbon Emission Disclosure is 0.408, with Financial Reporting Quality is 0.479, with Sustainability Performance is 0.511, and with Sustainability Reporting is 0.531. These values are all below the recommended threshold of 0.90, indicating that Audit Opinion is empirically distinct from the other constructs in the model.

The Carbon Emission Disclosure construct also demonstrates good discriminant validity. Its HTMT value with Financial Reporting Quality is 0.116, with Sustainability Performance is 0.545, and with Sustainability Reporting is 0.134. These values are relatively low, suggesting that Carbon Emission Disclosure does not strongly overlap with the other constructs. This means that the indicators used to measure Carbon Emission Disclosure are able to represent a concept that is different from financial reporting quality, sustainability performance, and sustainability reporting.

Furthermore, Financial Reporting Quality shows acceptable HTMT values with Sustainability Performance and Sustainability Reporting. The HTMT value between Financial Reporting Quality and Sustainability Performance is 0.500, while its value with Sustainability Reporting is 0.529. Since both values are below 0.90, it can be concluded that Financial Reporting Quality has adequate discriminant validity and is statistically different from the sustainability-related constructs.

The relationship between Sustainability Performance and Sustainability Reporting has the highest HTMT value in the table, which is 0.602. Although this value indicates a moderate relationship between the two constructs, it remains below the threshold of 0.90. This result is reasonable because sustainability performance and sustainability reporting are conceptually related, yet they still represent different dimensions. Sustainability performance reflects the actual achievement of sustainability practices, while sustainability reporting represents the disclosure or communication of sustainability information.

4.2. Structural Model Evaluation

Once the measurement model's validity was established, the exogenous variables' ability to explain the endogenous constructs was assessed using the R2 values. Greater explanatory power is reflected in higher R2 values. The coefficient of determination (R2) and modified R2 values for the model's endogenous variables are displayed in Table 4.

Table 4.
Coefficient of Determination (R Square).

Constructs	R Square	R Square Adjusted
Audit Opinion	0.427	0.415
Financial Reporting Quality	0.292	0.281

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

Table 4 shows the R Square and Adjusted R Square values used to assess the explanatory power of the model. The Audit Opinion construct has an R Square value of 0.427, meaning that 42.7% of its variation can be explained by the variables in the model. The Adjusted R Square value of 0.415 confirms that the model has a moderate explanatory power for Audit Opinion.

Meanwhile, Financial Reporting Quality has an R Square value of 0.292, indicating that 29.2% of its variation is explained by the model. The Adjusted R Square value of 0.281 shows a relatively weak-to-moderate explanatory power. Overall, the model explains Audit Opinion better than Financial Reporting Quality. This indicates that other factors outside the model may still influence Financial Reporting Quality.

4.3. Hypothesis Testing

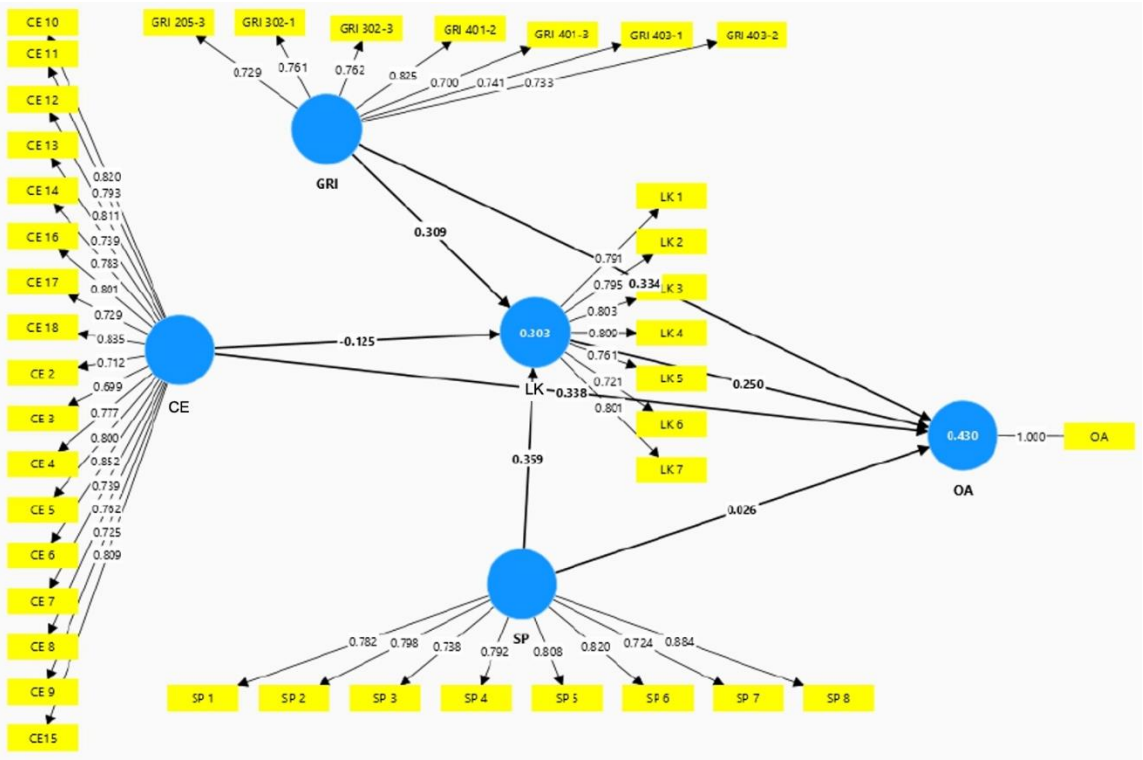

Figure 2.
Path Model.

Figure 2 presents the bootstrapping results of the structural model, showing the relationships among Carbon Emission Disclosure, Financial Reporting Quality, Audit Opinion, Sustainability Performance, and Sustainability Reporting. The values displayed on the paths represent the t-statistics, which are used to assess the significance of each relationship in the model. In general, a t-statistic above 1.96 indicates that the relationship is statistically significant at the 5% level. Based on the figure, most structural paths show t-statistic values above this threshold, indicating that the proposed relationships among the constructs are statistically supported.

The relationship between Carbon Emission Disclosure and Audit Opinion shows a t-statistic of 4.268, indicating a significant effect. This suggests that broader disclosure of carbon emissions may contribute to the formation of audit opinion, particularly because environmental disclosure can reflect the company's transparency and accountability. However, the relationship between Carbon Emission Disclosure and Financial Reporting Quality has a t-statistic of 1.454, which is below the minimum

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

threshold of 1.96. This indicates that Carbon Emission Disclosure does not significantly influence Financial Reporting Quality in this model. In other words, although carbon emission disclosure is important for sustainability transparency, it may not directly improve the quality of financial reporting.

Furthermore, Financial Reporting Quality has a significant effect on Audit Opinion, as shown by the t-statistic value of 4.046. This finding indicates that better financial reporting quality is likely to support a more reliable audit opinion. Financial reports that are prepared accurately, transparently, and in accordance with accounting standards provide stronger evidence for auditors in forming their opinion. In addition, Sustainability Reporting also has a significant relationship with Financial Reporting Quality, with a t-statistic of 4.350, suggesting that companies with stronger sustainability reporting practices tend to demonstrate better reporting discipline and accountability.

The figure also shows that Sustainability Performance significantly influences Financial Reporting Quality, with a t-statistic of 4.689. This means that better sustainability performance may support higher-quality financial reporting, possibly because companies with strong sustainability practices tend to have better governance, internal control, and disclosure mechanisms. Meanwhile, the relationship between Sustainability Performance and Audit Opinion has a t-statistic of 0.298, which is not significant. This indicates that sustainability performance alone does not directly determine audit opinion, since audit opinion is generally more closely related to the fairness of financial statements rather than non-financial performance indicators.

Overall, the model demonstrates that Financial Reporting Quality plays an important role in explaining Audit Opinion, while Sustainability Reporting and Sustainability Performance contribute more strongly to Financial Reporting Quality. The results also indicate that not all sustainability-related variables directly affect audit opinion. Therefore, the findings suggest that the influence of sustainability aspects on audit opinion may occur indirectly through improvements in reporting quality, transparency, and accountability.

Table 5.
Path Coefficients.

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
Carbon Emission Disclosure -> Audit Opinion	0.335	0.340	0.079	4.268	0.000	Accepted / Significant
Carbon Emission Disclosure -> Financial Reporting Quality	-0.130	-0.127	0.089	1.454	0.147	Rejected / Not Significant
Financial Reporting Quality -> Audit Opinion	0.260	0.254	0.064	4.046	0.000	Accepted / Significant
Sustainability Performance -> Audit Opinion	0.027	0.026	0.091	0.298	0.766	Rejected / Not Significant
Sustainability Performance -> Financial Reporting Quality	0.373	0.377	0.079	4.689	0.000	Accepted / Significant
Sustainability Reporting -> Audit Opinion	0.321	0.323	0.075	4.283	0.000	Accepted / Significant
Sustainability Reporting -> Financial Reporting Quality	0.284	0.289	0.065	4.350	0.000	Accepted / Significant

Table 5 presents the results of the path coefficient test used to examine the direct relationships among the constructs in the structural model. The significance of each relationship is assessed based on the t-statistic and p-value, where a path is considered significant when the t-statistic is greater than 1.96 and the p-value is less than 0.05. The results show that Carbon Emission Disclosure has a positive and significant effect on Audit Opinion, with a coefficient of 0.335, a t-statistic of 4.268, and a p-value of 0.000. This indicates that higher carbon emission disclosure contributes meaningfully to audit opinion, suggesting that environmental transparency may strengthen the credibility and accountability of corporate reporting.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

However, Carbon Emission Disclosure does not have a significant effect on Financial Reporting Quality, as indicated by a coefficient of -0.130, a t-statistic of 1.454, and a p-value of 0.147. This result means that carbon emission disclosure does not directly improve the quality of financial reporting. Furthermore, Financial Reporting Quality has a positive and significant effect on Audit Opinion, with a coefficient of 0.260, a t-statistic of 4.046, and a p-value of 0.000. This finding suggests that better financial reporting quality supports the formation of a more reliable audit opinion.

The results also show that Sustainability Performance does not significantly affect Audit Opinion, with a coefficient of 0.027, a t-statistic of 0.298, and a p-value of 0.766. This indicates that sustainability performance alone is not sufficient to influence audit opinion directly. In contrast, Sustainability Performance has a positive and significant effect on Financial Reporting Quality, with a coefficient of 0.373, a t-statistic of 4.689, and a p-value of 0.000. This implies that companies with stronger sustainability performance tend to have better financial reporting quality.

In addition, Sustainability Reporting has a positive and significant effect on both Audit Opinion and Financial Reporting Quality. The relationship between Sustainability Reporting and Audit Opinion shows a coefficient of 0.321, a t-statistic of 4.283, and a p-value of 0.000, while the relationship between Sustainability Reporting and Financial Reporting Quality shows a coefficient of 0.284, a t-statistic of 4.350, and a p-value of 0.000. Overall, the findings indicate that sustainability-related practices, particularly Sustainability Reporting and Sustainability Performance, play an important role in strengthening Financial Reporting Quality and Audit Opinion, although not all sustainability variables have a direct significant effect on Audit Opinion.

5. Discussion

The findings of this study provide important empirical evidence regarding how corporate sustainability initiatives influence audit opinion formulation through the mediating role of financial reporting quality. The study was developed based on three major theoretical perspectives, namely legitimacy theory, stakeholder theory, and agency theory. These theories are relevant because sustainability reporting, carbon emission disclosure, and sustainability performance are not only technical reporting practices but also strategic mechanisms through which companies communicate accountability, reduce information asymmetry, and maintain external legitimacy. The empirical results show that not all sustainability dimensions influence audit opinion and financial reporting quality in the same way. Therefore, the findings provide both theoretical justification and partial falsification of the grand theories used in this study.

The result shows that Carbon Emission Disclosure has a positive and significant effect on Audit Opinion. This finding supports the argument of stakeholder theory, which explains that companies are expected to provide relevant information to various stakeholders, including investors, regulators, creditors, communities, and environmental stakeholders. In the context of energy sector companies, carbon emission disclosure becomes highly relevant because the sector is closely associated with environmental risk and climate-related accountability. The significant result indicates that companies disclosing carbon-related information may be perceived as more transparent and accountable, thereby supporting audit-opinion formulation. This finding also justifies legitimacy theory, because carbon emission disclosure can be viewed as a corporate effort to demonstrate alignment with social and environmental expectations. This result is in line with Mayapada's recent study on Indonesian firms, which examined carbon emission disclosure using stakeholder and agency-theory perspectives and showed the relevance of carbon disclosure in explaining corporate reporting behavior [26]

However, the study also finds that Carbon Emission Disclosure does not significantly affect Financial Reporting Quality. This finding partially falsifies the broader assumption of stakeholder theory if the theory is interpreted as suggesting that greater disclosure always leads to better reporting quality. In this study, carbon emission disclosure appears to function more as an external transparency signal than as an internal mechanism that improves accounting quality. This may occur because carbon emission information is commonly reported in sustainability reports or environmental disclosure sections, while

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

financial reporting quality depends more directly on accounting standards, accrual quality, internal control, audit processes, and the reliability of financial measurement. Thus, although carbon disclosure may strengthen legitimacy and stakeholder communication, it does not necessarily improve the technical quality of financial statements.

The finding that Sustainability Reporting has a positive and significant effect on Financial Reporting Quality confirms the relevance of stakeholder theory and agency theory. Sustainability reporting reflects a structured communication process through which companies disclose economic, environmental, and social information. Companies that can prepare more comprehensive sustainability reports are likely to have better internal information systems, stronger disclosure discipline, and more developed governance mechanisms. From an agency-theory perspective, sustainability reporting can reduce information asymmetry between managers and external users by providing additional nonfinancial information that complements financial statements. This result is consistent with Al-Shaer, who found that high-quality sustainability reporting is associated with more transparent and reliable post-audit financial reporting quality [27].

The significant effect of Sustainability Reporting on Audit Opinion also supports legitimacy theory. Sustainability reporting allows firms to demonstrate their social and environmental responsibility in a formal and traceable manner. Unlike sustainability performance, which may not always be fully observable by external parties, sustainability reporting provides documented evidence that can be reviewed by stakeholders and may strengthen auditors' perception of corporate transparency. This finding is consistent with Darnall et al. [28], who found that ESG reporting guidelines and verification enhance the extent of firms' sustainability information disclosure. Their study indicates that structured reporting standards and verification can improve disclosure credibility, which is relevant to audit-related assessments [28].

The result also reveals that sustainability performance has a positive and significant effect on financial reporting quality. This finding justifies agency theory because strong sustainability performance may reflect better governance, stronger internal control, and greater managerial accountability. Firms with better sustainability performance are more likely to develop disciplined reporting systems and monitoring mechanisms that support reliable financial information. This result also supports stakeholder theory because sustainability performance reflects the company's actual response to stakeholder expectations. In this sense, sustainability performance is not only an operational outcome but also a governance signal that may strengthen financial reporting quality.

Nevertheless, Sustainability Performance does not significantly affect Audit Opinion. This finding partially falsifies the expectation derived from stakeholder theory and legitimacy theory that better sustainability performance should directly improve audit opinion. The insignificant result is theoretically reasonable because audit opinion primarily focuses on whether financial statements are fairly presented in accordance with applicable accounting standards. Sustainability performance may improve reputation, governance image, and stakeholder confidence, but it may not directly influence audit opinion unless it is reflected in financial statements, risk disclosure, provisions, liabilities, impairment assessment, or going-concern evaluation. Therefore, sustainability performance influences audit opinion more indirectly through financial reporting quality rather than through a direct audit mechanism.

The significant effect of Financial Reporting Quality on Audit Opinion strongly justifies agency theory. In agency relationships, managers possess more information than external stakeholders, which creates information asymmetry. High-quality financial reporting reduces this asymmetry by providing reliable, relevant, and faithful financial information. As a result, auditors have stronger evidence when forming audit opinions. This finding is consistent with the basic logic of auditing, where audit opinion depends heavily on the fairness, reliability, and compliance of financial statements. It is also consistent with Ellili, who found that ESG disclosure and financial reporting quality are important in explaining investment efficiency because both mechanisms reduce information asymmetry and improve decision usefulness [29].

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

Overall, the findings show that the grand theories used in this study are not fully rejected, but their explanatory power is conditional. Stakeholder theory is justified in explaining the significant role of sustainability reporting and carbon-emission disclosure in audit-related outcomes. Legitimacy theory is justified because sustainability and environmental disclosures serve as mechanisms for companies to maintain social acceptance and demonstrate accountability. Agency theory is strongly justified because financial-reporting quality significantly affects audit opinion and functions as an important mechanism connecting sustainability initiatives with audit outcomes. However, the study also partially falsifies these theories by showing that not all sustainability initiatives directly improve audit opinion or financial-reporting quality. In particular, carbon-emission disclosure does not significantly affect financial-reporting quality, and sustainability performance does not directly affect audit opinion.

The differences between this study and several previous studies may be explained by differences in research context, measurement, industry characteristics, and regulatory environment. This study focuses on energy-sector companies listed on the Indonesia Stock Exchange during 2022–2024. In emerging-market contexts, sustainability disclosure may still be developing and may not yet be fully integrated into financial reporting systems. In addition, carbon-emission disclosure may be conducted to meet external expectations rather than to improve accounting-information quality. This explains why carbon disclosure significantly affects audit opinion but does not significantly affect financial reporting quality. Meanwhile, sustainability performance may need to be translated into measurable financial implications before it can influence audit opinion directly.

From a practical perspective, the findings imply that companies should not treat sustainability initiatives merely as symbolic disclosures. Sustainability reporting, carbon emission disclosure, and sustainability performance should be supported by reliable data, internal control, governance systems, and reporting integration. Management should ensure that sustainability information is not separated from financial reporting processes, especially when sustainability issues may affect financial risks, liabilities, impairment, provisions, or going-concern considerations. For auditors, the findings suggest the importance of considering sustainability-related information in audit risk assessment, particularly for companies operating in environmentally sensitive sectors such as energy.

From a policy perspective, regulators should strengthen the integration between sustainability reporting and financial reporting. Clearer standards regarding carbon emission disclosure, sustainability reporting assurance, and ESG-related financial risk disclosure are necessary to improve comparability, reliability, and auditability. In the Indonesian capital market context, stronger sustainability disclosure standards may help reduce the gap between symbolic disclosure and substantive accountability. Such regulation is important because sustainability information increasingly affects investor confidence, corporate reputation, and audit-related risk assessment.

The theoretical contribution of this study lies in clarifying that different sustainability dimensions operate through different audit-related mechanisms. Sustainability reporting has both direct and indirect relevance to audit opinion because it reflects structured accountability and supports financial reporting quality. Carbon emission disclosure mainly functions as a direct transparency signal to auditors and stakeholders, but it does not necessarily improve financial reporting quality. Sustainability performance contributes to audit opinion indirectly through financial reporting quality, indicating that actual sustainability achievement must be translated into reliable reporting systems before it can affect audit outcomes. Therefore, this study extends legitimacy theory, stakeholder theory, and agency theory by showing that sustainability initiatives influence audit opinion not uniformly, but through distinct disclosure, governance, and reporting-quality mechanisms.

This study has several limitations. First, the model explains 42.7% of the variance in audit opinion and 29.2% of the variance in financial reporting quality, indicating that other variables outside the model may still influence both constructs. Second, the study focuses only on energy-sector companies listed on the Indonesia Stock Exchange, so the findings may not be fully generalizable to other sectors. Third, the study uses secondary data and PLS-SEM, which are useful for testing structural relationships but cannot fully capture managerial motivations behind sustainability disclosure. Fourth, the study does not include

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

several potentially important variables, such as audit quality, firm size, profitability, leverage, board independence, audit committee effectiveness, ownership structure, or external sustainability assurance.

Future research should expand the model by including governance and audit-related variables, such as audit quality, auditor reputation, audit committee characteristics, sustainability assurance, and board effectiveness. Further studies may also examine the mediating role of financial reporting quality more deeply by testing indirect effects for each sustainability dimension. Comparative studies across sectors or countries are also recommended to examine whether regulatory pressure and institutional maturity influence the relationship between sustainability initiatives, financial reporting quality, and audit opinion. In addition, future studies may use longitudinal designs to better capture changes in sustainability reporting quality and audit outcomes over time.

6. Conclusion

This study examined the nexus between corporate sustainability initiatives and audit opinion formulation by positioning financial reporting quality as a mediating mechanism. Specifically, the study investigated the effects of sustainability reporting, carbon emission disclosure, and sustainability performance on audit opinion, both directly and indirectly through financial reporting quality, among energy sector companies listed on the Indonesia Stock Exchange during the 2022–2024 period. The results show that the proposed model provides a meaningful explanation of audit opinion, with an R-squared value of 0.427, indicating that 42.7% of the variation in audit opinion can be explained by the variables included in the model. Meanwhile, financial reporting quality has an R-squared value of 0.292, suggesting that 29.2% of its variation is explained by sustainability reporting, carbon-emission disclosure, and sustainability performance.

The findings confirm that sustainability reporting and sustainability performance have positive and significant effects on financial reporting quality. These results support the hypotheses that stronger sustainability disclosure and better sustainability performance are associated with better reporting discipline, stronger accountability, and more reliable financial information. However, carbon-emission disclosure does not significantly affect financial reporting quality. This indicates that carbon-related disclosure, although important as an environmental-transparency mechanism, does not automatically improve the technical quality of financial reporting.

The results also show that sustainability reporting, carbon emission disclosure, and financial reporting quality have positive and significant effects on audit opinion. These findings support the hypotheses that structured sustainability disclosure, environmental transparency, and high-quality financial reporting contribute to audit opinion formulation. In contrast, sustainability performance does not have a significant direct effect on audit opinion. This finding rejects the initial hypothesis that sustainability performance directly influences audit opinion. The result suggests that sustainability performance may not directly affect auditors' judgment unless it is reflected in reliable financial reporting, risk disclosure, or other audit-relevant financial information.

Overall, this study concludes that financial reporting quality plays an important role in connecting sustainability initiatives with audit opinion. Sustainability reporting appears to operate both as a disclosure mechanism and as a governance-related factor that supports financial reporting quality and audit credibility. Carbon-emission disclosure mainly functions as a direct transparency signal to auditors and stakeholders, but it does not significantly improve financial reporting quality. Sustainability performance contributes more strongly to financial reporting quality than to audit opinion directly, indicating that actual sustainability achievements need to be translated into reliable reporting systems before they can influence audit outcomes.

The practical implication of this study is that companies, particularly those operating in environmentally sensitive sectors such as energy, should not treat sustainability initiatives merely as formal compliance or reputation-building instruments. Sustainability reporting, carbon emission disclosure, and sustainability performance should be supported by accurate data, internal control systems, governance mechanisms, and integration with financial reporting processes. For auditors, the findings

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

highlight the importance of considering sustainability-related information when assessing corporate transparency, reporting credibility, and audit risk. For regulators, the results indicate the need to strengthen sustainability-reporting standards, carbon-disclosure requirements, and assurance mechanisms so that sustainability information becomes more comparable, reliable, and useful for audit and investment decision-making.

This study has several limitations. First, the research focuses only on energy-sector companies listed on the Indonesia Stock Exchange, so the findings may not be fully generalizable to other industries. Second, the study uses secondary data from annual reports, sustainability reports, and audited financial statements, which may depend on the quality and completeness of corporate disclosure. Third, the model includes only selected sustainability-related variables, while other factors such as firm size, profitability, leverage, audit quality, corporate governance, ownership structure, and external sustainability assurance may also influence financial reporting quality and audit opinion.

Future research is recommended to expand the model by including additional governance, audit, and firm-specific variables. Further studies may also compare different sectors or countries to examine whether regulatory environments and industry characteristics affect the relationship between sustainability initiatives, financial reporting quality, and audit opinion. In addition, future research could use longitudinal designs or mixed-method approaches to provide deeper insight into how sustainability practices are integrated into financial reporting systems and how such integration influences auditor judgment over time.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

References

[1] N. Raimo, F. Vitolla, A. Marrone, and M. Rubino, "The role of sustainability disclosure in financial reporting quality," *Journal of Cleaner Production*, vol. 278, p. 127147, 2021.

[2] P. Velte, "Does sustainable corporate governance have an impact on materiality disclosure quality in integrated reporting? International evidence," *Sustainable Development*, vol. 30, no. 6, pp. 1655-1670, 2022. https://doi.org/10.1002/sd.2333

[3] B. Bae Choi, D. Lee, and J. Psaros, "An analysis of Australian company carbon emission disclosures," *Pacific Accounting Review*, vol. 25, no. 1, pp. 58-79, 2013. https://doi.org/10.1108/01140581311318968

[4] A. Kolk, D. Levy, and J. Pinkse, "Corporate responses in an emerging climate regime: The institutionalization and commensuration of carbon disclosure," *European Accounting Review*, vol. 17, no. 4, pp. 719-745, 2008. https://doi.org/10.1080/09638180802489121

[5] M. Khan, G. Serafeim, and A. Yoon, "Corporate sustainability: First evidence on materiality," *The Accounting Review*, vol. 91, no. 6, pp. 1697-1724, 2016. https://doi.org/10.2308/accr-51383

[6] C. B. Ramadhan and M. Y. R. Pandin, "The the effect of green accounting and carbon accounting on production sustainability in financial performance in agribusiness companies," *Golden Ratio of Finance Management*, vol. 5, no. 1, pp. 252-259, 2025. https://doi.org/10.52970/grfm.v5i1.1056

[7] R. G. Eccles, I. Ioannou, and G. Serafeim, "The impact of corporate sustainability on organizational processes and performance," *Management Science*, vol. 60, no. 11, pp. 2835-2857, 2014. https://doi.org/10.1287/mnsc.2014.1984

[8] M. DeFond and J. Zhang, "A review of archival auditing research," *Journal of Accounting and Economics*, vol. 58, no. 2-3, pp. 275-326, 2014. https://doi.org/10.1016/j.jacceco.2014.09.002

[9] R. Simnett, A. Vanstraelen, and W. F. Chua, "Assurance on sustainability reports: An international comparison," *The Accounting Review*, vol. 84, no. 3, pp. 937-967, 2009. https://doi.org/10.2308/accr.2009.84.3.937

[10] C. Deegan, "Introduction: The legitimising effect of social and environmental disclosures–a theoretical foundation," *Accounting, Auditing & Accountability Journal*, vol. 15, no. 3, pp. 282-311, 2002. https://doi.org/10.1108/09513570210435852

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367

[11] R. E. Freeman, *Strategic management: A stokcholder approach*. Boston, MA: Pitman, 1984.
[12] M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics*, vol. 3, no. 4, pp. 305–360, 1976. https://doi.org/10.1016/0304-405X(76)90026-X
[13] I. Abeysekera, "A framework for sustainability reporting," *Sustainability Accounting, Management and Policy Journal*, vol. 13, no. 6, pp. 1386-1409, 2022. https://doi.org/10.1108/SAMPJ-08-2021-0316
[14] J. Ferreira, A. Coelho, and L. Moutinho, "Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation," *Technovation*, vol. 92, p. 102061, 2020. https://doi.org/10.1016/j.technovation.2018.11.004
[15] S. Berthelot and A.-M. Rober, "Climate change disclosures: An examination of Canadian oil and gas firms," *Issues in Social and Environmental Accounting (ISEA)*, vol. 5, no. 2, pp. 106-123, 2011.
[16] I. Perica, T. Vuko, and S. Šodan, "ESG disclosure and modified audit opinions: Evidence from the Croatian capital market," *Zeszyty Teoretyczne Rachunkowości*, vol. 49, no. 2, pp. 161–179, 2025.
[17] D. Ferreira, C. Pereira, M. Queirós, and A. P. Monteiro, "Impact of sustainability reporting on accounting information quality," *Cogent Business & Management*, vol. 12, no. 1, p. 2468875, 2025. https://doi.org/10.1080/23311975.2025.2468875
[18] B. Bui, M. N. Houqe, and M. Zaman, "Climate change disclosure and firm value," *Journal of Cleaner Production*, vol. 262, p. 121933, 2020.
[19] X. Wang, X. Song, and M. Sun, "How does a company's ESG performance affect the issuance of an audit opinion? the moderating role of auditor experience," *International Journal of Environmental Research and Public Health*, vol. 20, no. 5, p. 3878, 2023. https://doi.org/10.3390/ijerph20053878
[20] M. A.-e. Mohamed, G. M. Diab, and S. M. El-Kholy, "Organizational citizenship behavior and internal marketing in nursing profession: A correlational study," *Assiut Scientific Nursing Journal*, vol. 9, no. 25.0, pp. 95-105, 2021.
[21] A. Diab and A. M. Eissa, "ESG performance, auditor choice, and audit opinion: Evidence from an emerging market," *Sustainability*, vol. 16, no. 1, p. 124, 2023. https://doi.org/10.3390/su16010124
[22] I. A. Abed, N. Hussin, H. Haddad, N. M. Al-Ramahi, and M. A. Ali, "The moderating impact of the audit committee on creative accounting determination and financial reporting quality in Iraqi commercial banks," *Risks*, vol. 10, no. 4, p. 77, 2022. https://doi.org/10.3390/risks10040077
[23] D. Arif, S. Riyadi, and M. Nugroho, "Standardized strategy, budget participation through information technology for communication on company performance; Acase study," *Contaduría y administración*, vol. 71, no. 2, p. e550, 2026. https://doi.org/10.22201/fca.24488410e.2026.4951
[24] M. Y. R. Pandin, T. Ratnawati, and I. Yuhertiana, "The influence of financial structure, financial literacy and financial behavior on household financial resilience using financial inclusion and financial decision as intervening variables on cancer survivors household in east java during covid-19 pandemic," *International Journal of Entrepreneurship and Business Development*, vol. 4, no. 1, pp. 80–90, 2021.
[25] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 8th ed. Andover, Hampshire, United Kingdom: Cengage Learning EMEA, 2023.
[26] A. Mayapada and J. Lyu, "Carbon emission disclosure and earnings management: Ethical behaviour or opportunism motivation? ," *Pacific Accounting Review*, vol. 37, no. 2, pp. 190–208, 2025. https://doi.org/10.1108/PAR-03-2024-0044
[27] H. Al-Shaer, "Sustainability reporting quality and post-audit financial reporting quality: Empirical evidence from the UK," *Business Strategy and the Environment*, vol. 29, no. 6, pp. 2355-2373, 2020. https://doi.org/10.1002/bse.2507
[28] N. Darnall, H. Ji, K. Iwata, and T. H. Arimura, "Do ESG reporting guidelines and verifications enhance firms' information disclosure?," *Corporate Social Responsibility and Environmental Management*, vol. 29, no. 5, pp. 1214-1230, 2022. https://doi.org/10.1002/csr.2265
[29] N. O. D. Ellili, "Impact of ESG disclosure and financial reporting quality on investment efficiency," *Corporate Governance: The International Journal of Business in Society*, vol. 22, no. 5, pp. 1094-1111, 2022. https://doi.org/10.1108/CG-06-2021-0209

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 10, No. 7: 256-271, 2026
DOI: 10.55214/2576-8484.v10i7.13367