

## The Influence of the Independence of the Board of Directors, Audit Committee, and Background of the Board of Directors on Fraud Detection

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### ABSTRACT

This study aims to analyze the influence of the elements of corporate governance on *fraud* detection. *Fraud* in financial statements is an important issue because it can reduce the credibility of the company, reduce investor confidence, and weaken the effectiveness of corporate governance. This research uses a quantitative approach with secondary data obtained from the company's annual reports and financial statements. The sampling technique used was purposive sampling, and 134 observation data were obtained. Data analysis was carried out using multiple linear regression by first performing classical assumption tests, which included normality, multicollinearity, autocorrelation, and heteroscedasticity tests. *Fraud* detection was measured using the F-Score method, while the independence of the board of directors was measured by the proportion of independent directors, the audit committee was measured by the frequency of meetings, and the background of the board of directors was measured by the proportion of directors who had economic or financial education. The results of the study show that the elements of corporate governance have a significant effect on *fraud* detection with negative coefficients. These findings indicate that the improvement of the governance mechanism is likely to be followed by a decrease in the rate of *fraud* detection, which reflects that the monitoring mechanism functions more as a preventive measure than the detection of *fraud*. This research provides the implication that the effectiveness of corporate governance does not only depend on formal structures, but also on the quality of implementation, competence, and substantive independence in carrying out supervisory functions.

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### Introduction

Financial reporting fraud remains a crucial issue affecting the credibility of capital markets, particularly in developing countries like Indonesia. (Achmad et al., 2023) Fraudulent practices not only distort financial information, but also reduce investor confidence, weaken the effectiveness of corporate governance, and potentially disrupt economic stability. (MP Sari et al., 2022) In the context of public companies, especially in high-risk sectors such as mining, the potential for fraud is relatively greater. (Zahara & Ratnawati, 2024) This is due to operational complexity, high capital intensity, and significant commodity price

fluctuations. These characteristics create pressure and opportunities for management to manipulate financial statements.(Achmad et al., 2023)Therefore, the existence of a fraud detection mechanism is very important to ensure the transparency and accountability of the company.(Anggraini et al., 2025).

The mining sector is one of the industries that has a high level of vulnerability to financial reporting fraud because it is heavily influenced by external uncertainties, such as fluctuations in global demand, changes in environmental regulations, geopolitical instability, and commodity price volatility.(MP Sari et al., 2022)This condition can encourage management to manipulate financial reports to maintain investor confidence and the company's image in the market.(Achmad et al., 2022)The persistence of fraud cases in the mining sector shows that conventional oversight mechanisms are often unable to effectively prevent manipulative practices.(Tanjung & Maghfiroh, 2023). Therefore, analytical approaches such as the Beneish M-Score are becoming increasingly relevant as instruments for detecting indications of earnings manipulation and financial reporting fraud.(Anggraini et al., 2025)The continued prevalence of fraud in this sector also underscores the importance of strengthening corporate governance mechanisms as a tool for fraud prevention and detection.

From a corporate governance perspective, the existence of an internal supervisory mechanism is an important instrument to minimize opportunistic management behavior.(OECD, 2023)Agency Theory explains that conflicts of interest between management and shareholders can encourage management to manipulate financial reports to achieve personal interests.(Jensen & Meckling, 1976)Therefore, corporate governance is needed to reduce information asymmetry and strengthen the monitoring function of managerial behavior. One of the main mechanisms in corporate governance is the independence of the board of directors.(Probohudono et al., 2022)Independent directors are expected to provide objective oversight, minimize conflicts of interest, and improve the quality of corporate decision-making. This independence enables the board of directors to carry out their monitoring function more effectively, thereby increasing the chances of detecting indications of financial reporting fraud.

However, the effectiveness of the independence of the board of directors in detecting fraud is not only determined by its formal existence, but also by its implementation in organizational practice.(Srivastava, 2021)In many cases, independent directors face limitations in accessing strategic information or have limited authority to criticize management decisions. These conditions can reduce the effectiveness of their role in detecting financial reporting fraud.(Naaraayanan & Meisner, 2021)However, the presence of independent directors remains an important element of corporate governance because it reflects a commitment to transparency and accountability.

In addition to the independence of the board of directors, the audit committee also has a strategic role in maintaining the integrity of the company's financial reporting.(Otekurin et al., 2022)The audit committee is responsible for monitoring the

financial reporting process, the effectiveness of internal controls, and the quality of internal and external audit implementation. (Dimuk et al., 2022) An independent and competent audit committee tends to be better able to identify financial reporting irregularities and more effectively evaluate fraud risks. An effective audit committee can also improve communication with auditors and strengthen the company's oversight system, allowing for early detection of potential financial reporting manipulation. (Ismail et al., 2022).

The effectiveness of the audit committee is influenced by various factors, such as the independence, competence, size, and tenure of the audit committee members. (Trisanti, 2023) Independent audit committee members generally have higher objectivity and are not easily influenced by management pressure, so they are able to carry out their supervisory function more effectively. (Meutia et al., 2023). In addition, good communication between the audit committee and auditors can improve the company's ability to identify fraud risks early. Thus, the audit committee serves not only as an oversight mechanism but also as a strategic instrument in supporting corporate transparency and accountability. (Kusumosari & Rahardjo, 2023).

Besides independence, the background of the board of directors is also an important factor that influences the effectiveness of fraud detection. (Ebaid, 2023). The educational background, professional experience, and expertise of board members determine their capacity to understand complex financial information and identify anomalies. (Suhardjo & Lee, 2024). Directors who have expertise in finance or related industries tend to be better able to detect irregularities in financial reports and evaluate the effectiveness of internal control systems. (Probohudono et al., 2022). Conversely, limited competence can hinder the board's ability to identify fraudulent practices, thereby increasing the risk of undetected fraud. (Achmad et al., 2023).

The diversity of backgrounds of the board of directors can also improve the quality of oversight by providing broader perspectives and more critical evaluation of management decisions. (Al-dah et al., 2025). A diverse board of directors tends to be more willing to challenge irrational assumptions, improve the quality of decision-making, and minimize the opportunities for opportunistic management behavior. (Varouchas et al., 2025). In the mining industry, which has high operational and financial complexity, the presence of directors with adequate industry understanding is becoming increasingly important in interpreting operational indicators and accurately evaluating the company's financial performance. (Perdana et al., 2024).

Several studies related to corporate governance elements have been conducted previously. Fahreza et al. (2026), Sudjono (2023), Xing et al. (2022) found that the independence of the board of directors has a positive effect on fraud detection. Meanwhile, Sari & Husadha (2020) found that an independent board of directors has a negative effect on fraud detection. Sari & Husadha (2020) And Dimuk et al. (2022) found evidence that the audit committee has a positive effect on fraud detection. However, Hardirmaningrum & Rohman (2023) proves that the audit committee has no

significant influence on fraud detection. On the other hand, Andira & Ratnadi (2022), Pradani & Diyanty (2023) found that the educational background of the board of directors had a positive effect on fraud detection. Meanwhile, Probohudono et al. (2022) proves that the educational background of the board of directors does not always influence fraud detection.

Although the relationship between corporate governance and fraud detection has been extensively researched, most previous studies still suffer from several important limitations. First, previous studies tend to treat governance mechanisms such as board and audit committee independence separately, thus failing to explain how the combination of governance characteristics simultaneously influences fraud detection effectiveness. Second, empirical results regarding the effectiveness of board and audit committee independence remain inconsistent, particularly in developing countries with varying levels of governance compliance. Third, most studies focus on the manufacturing and banking sectors, while the mining sector, characterized by high risk and operational complexity, remains relatively underexplored. Fourth, research on fraud detection in the post-pandemic period remains limited, despite the potential for economic pressures and regulatory changes during this period to alter the effectiveness of corporate governance mechanisms.

This study offers several novelties. First, it develops an integrative approach by simultaneously examining the independence of the board of directors, the audit committee, and the background of the board of directors in explaining the detection of financial statement fraud. This approach differs from previous studies, which tend to examine governance mechanisms in isolation. Second, this study focuses on the Indonesian mining sector, which has a relatively high risk of financial statement manipulation but has been limitedly explored in previous literature.

This study has several important contributions. First, it expands the literature on corporate governance and fraud detection by simultaneously examining the influence of board independence, audit committee independence, and board background on the detection of financial statement fraud using the Beneish M-Score approach. Second, it provides empirical evidence on the Indonesian mining sector, which remains relatively limited in previous literature despite the sector's high risk of financial statement manipulation. Third, it provides insight into the effectiveness of corporate governance mechanisms in the post-pandemic context, when companies face economic pressures and significant regulatory changes. Therefore, this study is expected to provide theoretical contributions to the development of corporate governance and fraud detection literature and provide practical implications for regulators, investors, and companies in strengthening the transparency and integrity of financial reporting. Therefore, this study aims to analyze the influence of board independence, audit committee independence, and board background on the detection of financial statement fraud in mining companies listed on the Indonesia Stock Exchange for the 2021–2025 period using the Beneish M-Score approach.

**Method**

This study employed a quantitative research design. The data used in this study are secondary. Mining companies listed between 2019 and 2024 on the Indonesia Stock Exchange constitute the study population. Purposive sampling was the sampling method employed in this investigation. The purposive sampling technique was used because the study required companies with certain characteristics to ensure the data obtained was relevant to the research objectives. This technique allowed researchers to select samples based on specific criteria, thus generating more appropriate data to examine the relationship between board of director independence, audit committee independence, and board of director background on fraud detection. The study sample consisted of companies operating in the mining sector listed on the Indonesia Stock Exchange during the 2019–2024 period. Sample characteristics were determined based on the availability of complete published annual reports and financial statements during the observation period. Furthermore, companies that were delisted, did not publish financial reports consistently, or had incomplete data related to the research variables were excluded from the study sample. The research data were obtained through documentation of annual reports and company financial statements accessed through the official website of the Indonesia Stock Exchange and the official websites of each company. The data collection process was carried out by identifying companies that met the sample criteria and then downloading their financial reports for the period 2019–2024. Next, data related to the research variables were recorded and processed using Microsoft Excel and SPSS26 software. The data were then analyzed using classical assumption tests and multiple regression tests to draw research conclusions.

**Results and Discussion**

This study used a sample of mining companies listed during the 2019-2024 period and presenting financial reports in rupiah. The sample was selected using a purposive sampling method, resulting in 144 company data sets. However, initial test results indicated that the data were not normally distributed, so further normality testing was conducted to identify any anomalies. Based on the normality test results, 10 non-normal data sets were identified and were subsequently eliminated from the sample. Thus, the final data set used in this study was 134.

**Table 1. Descriptive Statistics**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Standard Deviation
Independence of the Board of Directors	134	.07	.50	.2684	.13099
Audit Committee	134	2.00	5.00	3.3731	.59663
Background of the Board of Directors	134	.00	1.17	.4601	.26643
Fraud Detection	134	-6.26	10.86	3.5203	2.45203
Valid N (listwise)	134				

Source: Processed Secondary Data (2026)

Based on Table 1, the number of observations used in this study was 134 data. The Board of Directors Independence variable has a minimum value of 0.07 and a maximum of

0.50, with an average of 0.2684 and a standard deviation of 0.13099, indicating that the level of board of directors independence tends to be at a moderate level with relatively low data variation. The Audit Committee variable has a minimum value of 2 and a maximum of 5, with an average of 3.3731 and a standard deviation of 0.59663, indicating that the number of audit committees in the sample companies is relatively stable and does not vary much.

Furthermore, the Board of Directors Background variable has a minimum value of 0.00 and a maximum of 1.17, with an average of 0.4601 and a standard deviation of 0.26643, indicating a fairly diverse background variation among the company's board of directors. Meanwhile, the Fraud Detection variable has a minimum value of -6.26 and a maximum of 10.86, with an average of 3.5203 and a standard deviation of 2.45203, indicating a fairly high level of variation compared to other variables. This indicates that the ability or level of fraud detection in the sample companies is very diverse.

### Classical Assumption Test Results

The classical assumption test in this study was carried out using normality, multicollinearity, autocorrelation and heteroscedasticity tests: The classical assumption test was carried out with the aim of ensuring that the regression results were not biased.

### Normality Test Results

To test the normality of the data in this study, the Kolmogorov-Smirnov test was used with the following results:

**Table 2. Initial Normality Test Results**

	Tests of Normality					
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Unstandardized Residual	.237	144	.000	.472	144	.000
a. Lilliefors Significance Correction						

Source: Processed Secondary Data (2026)

Based on Table 2, the results of the initial normality test indicate that the significance value of the Kolmogorov-Smirnov test is 0.000, which is less than 0.05. This indicates that the data is not normally distributed. These results are also supported by the Shapiro-Wilk test, which produces a significance value of 0.000 ( $<0.05$ ), further strengthening the conclusion that the residuals do not meet the assumption of normality. Thus, it can be concluded that the data in the initial stage of the study does not meet the criteria for normal distribution, so further steps such as data transformation or removal of outliers are needed to improve the data distribution before further analysis.

**Table 3. Final Normality Test Results**

	Tests of Normality					
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Unstandardized Residual	.054	134	.200*	.983	134	.104
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Source: Processed Secondary Data (2026)

Based on Table 3, the final normality test results show a significance value of 0.200 in the Kolmogorov-Smirnov test, which is greater than 0.05. Furthermore, the Shapiro-Wilk test also shows a significance value of 0.104, which is also greater than 0.05. This indicates

that the residuals in this study are normally distributed. Therefore, it can be concluded that the data meets the assumption of normality and is suitable for further analysis.

**Multicollinearity Test Results**

Multicollinearity test is a test to determine whether there is a correlation between the independent variables, the presence of multicollinearity can be determined by examining the VIF (Variance Inflation Factor) and Tolerance values. If the VIF is <10 and the Tolerance is >0.1, multicollinearity is confirmed. The results are as follows:

**Table 4. Multicollinearity Test Results**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Independence of the Board of Directors	1,000	1,000
	Audit Committee	.997	1,003
	Background of the Board of Directors	.997	1,003

a. Dependent Variable: Fraud Detection

Source: Processed Secondary Data (2026)

Based on Table 4.5, it can be seen that all independent variables show tolerance values above 0.1, namely 1.000 for Board of Directors Independence and 0.997 for Audit Committee and Board of Directors Background. Furthermore, the Variance Inflation Factor (VIF) values for each variable are also below 10, namely 1.000 and 1.003. These values indicate that there is no high correlation between the independent variables in the research model.

**Autocorrelation Test Results**

After the multicollinearity test, the next step is the autocorrelation test. To determine the presence of autocorrelation in a regression model, the Durbin-Watson (DW) test is used. The results are as follows:

**Table 5. Autocorrelation Test Results**

Model Summary					
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
1	.340 <sup>a</sup>	.115	.095	2.33277	2,021

a. Predictors: (Constant), Board of Directors Background, Board of Directors Independence, Audit Committee  
 b. Dependent Variable: Fraud Detection

Source: Processed Secondary Data (2026)

The results of the autocorrelation test using the Durbin-Watson method showed a value of 2.021. With a sample size (N) of 84, the upper limit value (dU) was 1.950, so the value (4 - dU) was 2.050. According to the test criteria, if the Durbin-Watson value (d) is between dU and (4 - dU), then the null hypothesis (H<sub>0</sub>) is accepted, which means there is no autocorrelation in the regression model. The Durbin-Watson value of 2.021 is between 1.950 and 2.050, so it can be concluded that H<sub>0</sub> is accepted. Thus, the regression model in this study does not experience autocorrelation problems. This indicates that the residuals between observations are independent, so the regression model is suitable for further analysis.

### Heteroscedasticity Test Results

This section discusses heteroscedasticity testing. In this study, the Glejser test was used to test for heteroscedasticity. In the Glejser test, the absolute value of the residual ( $|u|$ ) is regressed against the independent variable. The following are the test results:

**Table 6. Heteroscedasticity Test Results**

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.112	.825		.135	.893
	Independence of the Board of Directors	1,068	.978	.094	1,093	.277
	Audit Committee	.415	.215	.166	1,930	.056
	Background of the Board of Directors	-.092	.482	-.017	-.191	.848

a. Dependent Variable: ABS\_RES

Source: Processed Secondary Data (2026)

Based on the heteroscedasticity test results in Table 6, it can be seen that all independent variables have significance values above 0.05, namely Board of Directors Independence at 0.277, Audit Committee at 0.056, and Board of Directors Background at 0.848. Although the Audit Committee's significance value is close to the 0.05 limit, it remains above the established significance threshold. This indicates that there is no significant relationship between the independent variables and the absolute residual value (ABS\_RES).

### Model Fit Test Results

The following are the results of the model fit test in this study:

**Table 7. Model Fit Test Results**

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92,219	3	30,740	5,649	.001b
	Residual	707,436	130	5,442		
	Total	799,655	133			

a. Dependent Variable: Fraud Detection  
b. Predictors: (Constant), Board of Directors Background, Board of Directors Independence, Audit Committee

Source: Processed Secondary Data (2026)

Based on Table 7, the results of the model fit test using ANOVA show that the F value is 5.649 with a significance level of 0.001, which is less than 0.05. This indicates that the regression model used in this study is deemed appropriate (fit) and can be used to explain the relationship between the independent and dependent variables. Simultaneously, the variables of Board of Directors Background, Board of Directors Independence, and Audit Committee are proven to have a significant effect on Fraud Detection.

### Results of the Determination Coefficient Test

The following are the results of the coefficient of determination test in this study:

**Table 8. Results of the Determination Coefficient Test**

Model Summary					
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson

1	.340a	.115	.095	2.33277	2,021
a. Predictors: (Constant), Board of Directors Background, Board of Directors Independence, Audit Committee					
b. Dependent Variable: Fraud Detection					

Source: Processed Secondary Data (2026)

Based on Table 8, the Adjusted R Square value is 0.095. This indicates that the Board of Directors Background, Board of Directors Independence, and Audit Committee variables are only able to explain 9.5% of the Fraud Detection variable. Meanwhile, the remaining 90.5% is influenced by other variables outside this research model that were not examined. The R Square value of 0.115 also indicates that the model's ability to explain variations in Fraud Detection is still relatively low.

### Hypothesis Testing Results

Hypothesis testing was then conducted to determine the effect of the independent variables on the dependent variable. The test was conducted using a t-test, with the following results:

**Table 9. t-Test Results**

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,051	1,304		6.175	.000
	Independence of the Board of Directors	-4,302	1,544	-.230	-2,786	.006
	Audit Committee	-.779	.340	-.190	-2.295	.023
	Background of the Board of Directors	-1.623	.760	-.176	-2.135	.035

a. Dependent Variable: Fraud\_Detection

Source: Processed Secondary Data (2026)

### Hypothesis 1. Independence of the Board of Directors on Fraud Detection

Based on the analysis results, it is known that the Board of Directors Independence variable has a significance value of  $0.006 < 0.05$  with a negative coefficient (-4.302), which indicates that the independence of the board of directors has a negative effect on fraud detection, so that the first hypothesis (H1) is accepted. This result indicates that the higher the level of board of directors independence, the tendency to reduce the level of fraud detection. This finding can be explained that the presence of independent directors is not always effective in improving fraud detection capabilities, especially if the independence is formal and not accompanied by active involvement, in-depth understanding of the company's operations, and adequate access to information.(Neville et al., 2019; Pascual-fuster & Crespi-Cladera, 2022)This finding contradicts the predictions of Agency Theory, which states that the presence of independent directors should strengthen the monitoring function and reduce opportunistic management behavior through more objective oversight mechanisms.

Although in theory the agency independence of the board is expected to be able to improve the supervisory function and reduce information asymmetry, in practice independent directors often have limitations in understanding the internal complexity of the company compared to internal directors.(Cavaco et al., 2014)This can lead to a less than optimal fraud identification process. Furthermore, the potential for reliance on information provided by management can also hinder the effectiveness of oversight.(Deng, 2019)

On the other hand, these results also indicate that increasing the number of independent directors without being balanced by adequate competence, experience, and intensity of supervision can actually reduce the effectiveness of fraud detection.(Astuti & Sormin, 2019). Thus, the independence of the board of directors needs to be seen not only in terms of the proportion of numbers, but also in terms of quality, expertise, and active role in carrying out the supervisory function so that it can truly contribute to optimal fraud detection.(Natasya et al., 2024)The results of this study are in line with research conducted byKuang & Lee (2017), Meiliana et al. (2024), Probahudono et al. (2022)which hasproves a negative relationship between the independence of the board of directors and fraud detection.

### **Hypothesis 2. Audit Committee on Fraud Detection**

Based on the analysis results, it is known that the Audit Committee variable shows a significance value of  $0.023 < 0.05$  with a negative coefficient (-0.779), which means the audit committee has a negative effect on fraud detection, so the second hypothesis (H2) is accepted. These results indicate that the more effective the audit committee's role, the lower the fraud detection rate tends to be. This condition can be explained by the following:the existence of the audit committee is merely a formality, is less independent, less competent, or experiences coordination problems in carrying out its supervisory function(Hardirmaningrum & Rohman, 2023). Audit committees often rely on information provided by management and internal auditors. This dependence creates information asymmetry, preventing the audit committee from having full access to the company's operational conditions.(Wehrhahn & Velte, 2024)As a result, fraud committed covertly through transaction manipulation or accounting manipulation becomes difficult to detect. This research aligns with research conducted byHardirmaningrum & Rohman (2023)shows that the audit committee does not have a significant positive effect on fraud detection.

### **Hypothesis 3. Background of the Board of Directors on Fraud Detection**

Based on the analysis results, it is known that the Board of Directors Background variable has a significance value of  $0.035 < 0.05$  with a negative coefficient (-1.623), which indicates a negative influence on fraud detection, so that the third hypothesis (H3) is accepted. These results indicate that the stronger or more diverse the background of the board of directors, the lower the level of fraud detection in the company.

The background of the board of directors is expected to be able to increase the effectiveness of supervision through expertise, experience and analytical abilities in

understanding We analyze financial reports and identify deviations. However, the findings of this study indicate different conditions, which may be caused by several contextual factors. (Sanad et al., 2020). Diversity of backgrounds, such as education, industry experience, and demographic characteristics, is not always accompanied by effective coordination and good communication within the board. From the Agency Theory perspective, opportunistic management behavior cannot always be minimized by the higher education held by the board of directors. (Ali et al., 2022). Directors still have personal interests and this pressure can cause the education possessed by the board of directors to be used to hide fraud so that it is not easily detected. (Andira & Ratnadi, 2022) The results of this study are in line with research conducted by Probohudono et al. (2022) which shows that the educational background of the board of directors does not have a positive influence on fraud detection.

## Conclusion

Based on the research results, it can be concluded that the independence of the board of directors, the audit committee, and the background of the board of directors partially have a significant negative effect on fraud detection in mining companies listed on the Indonesia Stock Exchange for the 2019–2024 period. All variables show a negative coefficient direction, indicating that increasing board independence, the existence of an audit committee, and the background of the board of directors have not been able to optimally improve the effectiveness of fraud detection. This finding indicates that corporate governance mechanisms in practice are not yet fully effective and still face various implementation obstacles.

Theoretically, this study contributes to the development of Agency Theory and the corporate governance literature by demonstrating that the existence of formal oversight mechanisms does not always result in effective substantive oversight. The results show that the independence of the board of directors and audit committee can be symbolic if not supported by adequate competence, access to information, integrity, and quality of oversight. This study also expands the literature on fraud detection by confirming that contextual factors such as organizational culture, internal board dynamics, and the quality of governance implementation play a significant role in determining the effectiveness of corporate oversight, particularly in the mining sector in Indonesia, which has operational complexity and a relatively high risk of fraud.

Practically, the results of this study have implications for companies and regulators. Companies need to re-evaluate the effectiveness of the board of directors and audit committee, not only in terms of formal structure, but also in terms of oversight quality, substantive independence, competence, and integrity of board members. Companies also need to increase training related to fraud detection, forensic accounting, and risk management to ensure more effective monitoring. Furthermore, coordination and communication among board members need to be strengthened to enhance the ability to

identify indications of fraud. For regulators, the results of this study demonstrate the importance of stricter oversight of corporate governance implementation so that governance mechanisms are not merely administrative or merely fulfilling formal regulations.

This study has several limitations. First, the study only used mining companies listed on the Indonesia Stock Exchange, so the results cannot be generalized to all industrial sectors. Second, the study only used three corporate governance variables: board independence, audit committee, and board background. This means that other factors potentially influencing fraud detection remain unanalyzed in this study. Third, the study used a quantitative approach based on secondary data, thus failing to delve deeply into the internal dynamics of companies and the oversight processes that occur in practice.

Based on these limitations, further research is recommended to include other variables such as audit quality, internal control effectiveness, organizational culture, institutional ownership, or board competence in accounting and risk management. Future research could also expand the research object to other industrial sectors to obtain more generalizable results. Furthermore, the use of mixed methods or qualitative approaches such as in-depth interviews could be conducted to more comprehensively understand the factors that prevent corporate governance mechanisms from optimally improving fraud detection effectiveness.

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