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Financial Statement Fraud from the Perspective of the Fraud Hexagon Theory

Ivana Gratia[1], Siti Nur Hadiyati[2]
[1]Swadaya Gunung Jati University, Cirebon City, Indonesia, ivana.122040126@ugj.ac.id
[2]Swadaya Gunung Jati University, Cirebon City, Indonesia, siti.nur.hidayati@ugj.ac.id

Corresponding Author: siti.nur.hidayati@ugj.ac.id[2]

Abstract: This study aims to examine the effect of fraud hexagon elements, namely pressure, opportunity, rationalization, capability, ego, and collusion, on financial statement fraud in mining companies listed on the Indonesia Stock Exchange during 2022–2024. This study employed a quantitative approach using secondary data obtained from annual financial statements and annual reports. The population consisted of 42 mining companies, while the sample was selected using purposive sampling, resulting in 27 companies or 81 firm-year observations. Financial statement fraud was measured using the F-Score, and the data were analyzed using multiple linear regression. The results show that pressure does not have a significant effect on financial statement fraud. In contrast, opportunity, rationalization, capability, ego, and collusion have significant effects on financial statement fraud. However, the effects of opportunity, capability, ego, and collusion tend to be negative, while rationalization shows a positive direction. These findings indicate that fraud hexagon elements do not operate uniformly in mining companies, and that proxy selection plays an important role in explaining financial statement fraud risk.

Keywords: Fraud Hexagon, Financial Statement Fraud, Mining Companies, Indonesia Stock Exchange, F-Score

INTRODUCTION

Financial statements are the primary medium through which management communicates a company's financial condition, performance, and prospects to investors, creditors, regulators, and other stakeholders. Therefore, the integrity of financial statements is essential for ensuring the quality of economic decision-making. When financial statements are intentionally misstated through material misrepresentation or omission of relevant information, users of those reports may make inaccurate decisions that ultimately harm both market participants and the company itself. In the accounting literature, financial statement fraud refers to deliberate misstatements or omissions in financial reporting intended to mislead users of financial statements (Oktavia, Bahari, and Kartika 2022; Rahmawati and Utami 2023).

From a theoretical perspective, the tendency of financial statement fraud can be explained through agency theory and the development of fraud theories. Agency theory explains that the

separation between principals and agents gives rise to conflicts of interest and information asymmetry, thereby creating incentives for managers to behave opportunistically in financial reporting (Jensen and Meckling 1976). In fraud research, one of the most influential foundational models is the fraud triangle, which emphasizes pressure, opportunity, and rationalization as the main antecedents of fraud. As fraud schemes and organizational environments became more complex, the framework was expanded to capture broader behavioral and structural dimensions of fraudulent behavior (Dorminey et al. 2012).

Subsequent developments in fraud theory indicate that financial statement fraud cannot be adequately explained only by pressure, opportunity, and rationalization. Psychological factors, ethical climate, organizational permissiveness, and an actor's capacity to exploit control weaknesses also shape fraudulent behavior. Murphy and Dacin (2011) explain that fraud may develop through psychological pathways that normalize deviant actions, while Murphy and Free (2016) show that organizational climate may widen the possibility of fraud beyond the traditional triangle. Building on these developments, Vousinas (2019) proposed the S.C.O.R.E. model or fraud hexagon, which consists of stimulus, capability, opportunity, rationalization, ego, and collusion. In many Indonesian studies, stimulus is commonly operationalized as pressure, so the fraud hexagon is generally tested through six elements: pressure, opportunity, rationalization, capability, ego, and collusion.

Empirically, studies on fraud hexagon still show inconsistent results. Tarjo, Anggono, and Sakti (2021) found that pressure, opportunity, rationalization, and ego were significant in detecting indications of fraudulent financial statements, while capability and collusion were not significant. Handoko (2021), in contrast, reported that in Indonesian banking companies, only collusion significantly affected financial statement fraud detection, whereas several other fraud hexagon proxies were not significant. Nugroho and Diyanty (2022) also showed that in non-financial companies, the probability of fraudulent financial statements increased when managers had stimulus, opportunity, and capability, while rationalization and collusion did not significantly affect the probability of fraud. These findings indicate that the explanatory power of fraud hexagon is highly dependent on the research setting, industrial characteristics, and the proxies used for each construct.

The inconsistency is also evident in studies that are closer to the context of this article. Rahmawati and Utami (2023) found that in mining-related observations, only certain fraud hexagon proxies were significant, while the others were not. Likewise, Sari et al. (2022), specifically examining mining companies listed on the Indonesia Stock Exchange, found that the effect of fraud hexagon variables on fraudulent financial statements was not uniformly strong and that the audit committee only moderated certain relationships. These results suggest that fraud hexagon variables may behave differently in the mining sector compared with other sectors such as banking, manufacturing, or broader non-financial firms. Consequently, testing the fraud hexagon framework in mining companies remains relevant, especially when using more recent observation periods and explicitly focusing on financial statement fraud risk.

Mining companies represent an important setting for fraud research because they operate in a capital-intensive industry, face strong performance expectations, and often deal with complex transactions and reporting judgments. These conditions may increase managerial incentives to present favorable financial performance and, at the same time, create room for aggressive or misleading financial reporting practices. Although several prior studies have discussed fraud hexagon in Indonesian listed companies, empirical evidence focusing on mining firms remains relatively limited and still does not produce a stable pattern of findings across variables. Therefore, additional evidence is needed to clarify whether pressure, opportunity, rationalization, capability, ego, and collusion consistently explain financial statement fraud in mining companies listed on the Indonesia Stock Exchange.

Based on the theoretical explanation and empirical gap above, this study aims to examine the effect of pressure, opportunity, rationalization, capability, ego, and collusion on financial statement fraud in mining companies listed on the Indonesia Stock Exchange during the 2022–2024 period. Financial statement fraud in this study is proxied by the F-Score model. This study is expected to contribute to the empirical literature by providing updated evidence on the applicability of fraud hexagon in the mining sector and by clarifying which elements are more relevant in explaining financial statement fraud risk in that context.

Based on the arguments above, the hypotheses of this study are formulated as follows:
H1: Pressure has a positive effect on financial statement fraud.
H2: Opportunity has a positive effect on financial statement fraud.
H3: Rationalization has a positive effect on financial statement fraud.
H4: Capability has a positive effect on financial statement fraud.
H5: Ego has a positive effect on financial statement fraud.
H6: Collusion has a positive effect on financial statement fraud.

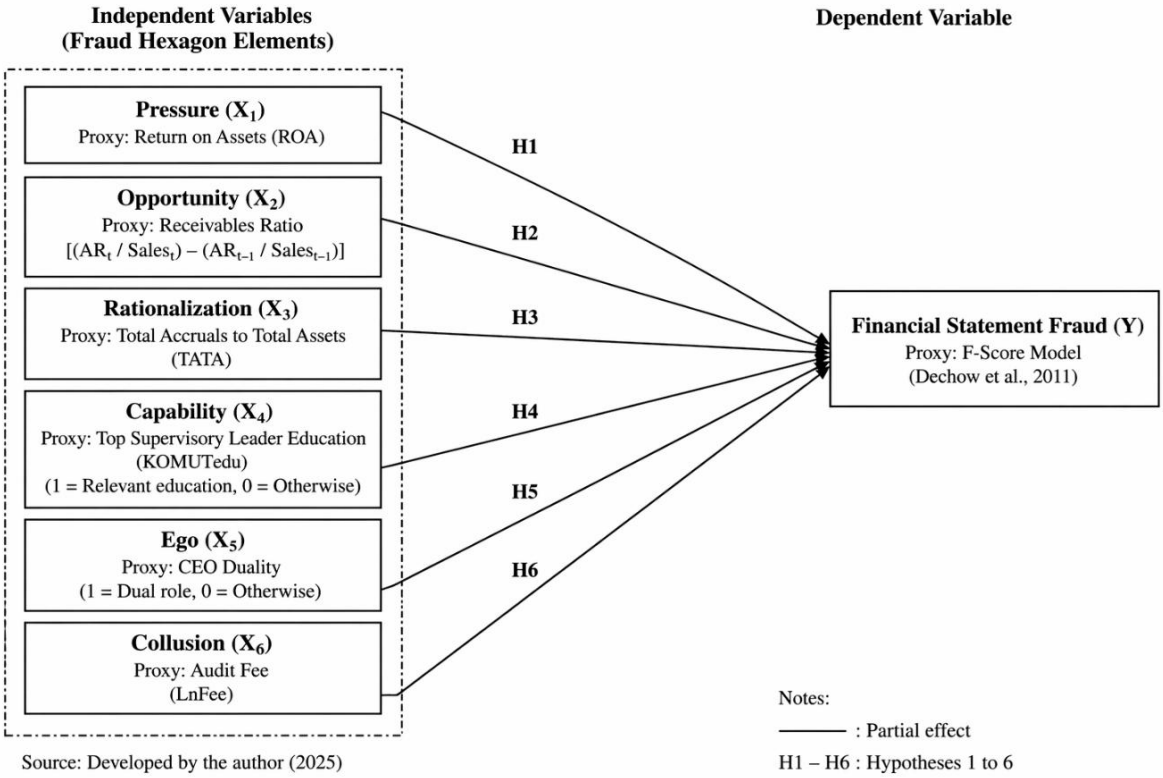

Figure 1. Conceptual Framework

METHOD

This study employed a quantitative approach with an explanatory research design to examine the effect of fraud hexagon elements on financial statement fraud. The object of the study was mining companies listed on the Indonesia Stock Exchange during the 2022–2024 period. Secondary data were used in the form of audited annual financial statements and annual reports obtained from the official Indonesia Stock Exchange website and the official websites of the sampled companies. This design is appropriate because fraud hexagon studies generally test the relationship between several fraud-related predictors and financial statement fraud using archival corporate data and regression-based analysis.

The population of this study consisted of 42 mining companies listed on the Indonesia Stock Exchange during the 2022–2024 period. The sample was selected using purposive sampling. The criteria used in the sample selection were: (1) mining companies listed

consecutively during the observation period, (2) companies that published complete annual reports and audited financial statements, and (3) companies that disclosed the data required to calculate all research variables. Based on these criteria, the final sample consisted of 27 companies, resulting in 81 firm-year observations.

Financial statement fraud as the dependent variable was measured using the F-Score model. The F-Score is widely used in empirical research as a red-flag measure for the likelihood of material misstatement because it combines indicators of accrual quality and financial performance. The use of F-Score is also consistent with several fraud hexagon studies in Indonesia and ASEAN contexts, including government entities, banking-related settings, and IT-industry firms. In this study, a higher F-Score indicates a higher risk of financial statement fraud.

The independent variables represent the six elements of the fraud hexagon, namely pressure, opportunity, rationalization, capability, ego, and collusion. Their operationalization was adjusted to data availability in annual reports and to empirical practices in prior studies. Pressure was proxied by Return on Assets (ROA), reflecting financial target or profitability pressure. Opportunity was proxied by the receivables ratio, reflecting the nature of industry and the opportunity to manipulate revenue-related accounts. Rationalization was proxied by Total Accrual to Total Assets (TATA), which is commonly used to capture aggressive accrual behavior. Capability was proxied by the educational relevance of the top supervisory leader, measured as a dummy variable. Ego was proxied by the dual role of the president director, also measured as a dummy variable. Collusion was proxied by audit fee and transformed into the natural logarithm of audit fee (LnFee). Similar proxy choices have been used in prior fraud hexagon studies, including the use of CEO education, CEO duality, total accrual ratio, and audit fees in explaining fraudulent financial statements.

To improve clarity, the operational definitions of the variables are presented in Table 1.

Table 1. Operational Definition of Variables

Variable	Proxy	Measurement	Scale
Financial Statement Fraud (Y)	F-Score	F-Score based on accrual quality and financial performance	Ratio
Pressure (X1)	ROA	RoA= $\frac{Net\ Profit}{Total\ Assets}$	Ratio
Opportunity (X2)	Receivable	Receivable=$\frac{Receivables\ t}{Sale\ t} - \frac{Receivables\ t-1}{Sale\ t-1}$	Ratio
Rationalization (X3)	TATA	TATA= $\frac{Total\ Accruals}{Total\ Assets}$	Ratio
Capability (X4)	KOMUTedu	Dummy: 1 = top supervisory leader has an educational background in economics, accounting, management, or business; 0 = otherwise	Nominal
Ego (X5)	DIRUTdualrole	Dummy: 1 = president director concurrently holds another strategic position; 0 = otherwise	Nominal
Collusion (X6)	LnFee	Natural logarithm of audit fee disclosed in the annual report	Ratio

Source: developed by the author based on Dechow et al. (2011), Aviantara (2021), Rahmawati and Utami (2023), Sihombing and Panggulu (2022), and Khoyumi, Puspa Inggani, and Hadiyati (2024).

The data were analyzed using IBM SPSS version 25. The stages of analysis consisted of descriptive statistical analysis, classical assumption tests, multiple linear regression analysis, and partial hypothesis testing using the t-test. Descriptive statistics were used to describe the distribution of each variable through the minimum, maximum, mean, and standard deviation values. Classical assumption tests were conducted to ensure that the regression model met the assumptions of normality, multicollinearity, heteroscedasticity, and autocorrelation. This analytical sequence is also commonly used in fraud hexagon research employing secondary company data and multiple regression models.

The regression model used in this study is formulated as follows:

$$F\text{-}SCORE\_it = \alpha + \beta1ROA\_it + \beta2RECEIVABLE\_it + \beta3TATA\_it + \beta4KOMUTedu\_it + \beta5DIRUTdualrole\_it + \beta6LnFee\_it + \varepsilon\_it$$

Where F-SCORE is the proxy for financial statement fraud, α is the constant, β1–β6 are the regression coefficients, and ε is the error term. Hypothesis testing was conducted at a significance level of 5 percent. A significance value below 0.05 indicates that the independent variable has a significant effect on financial statement fraud.

RESULTS AND DISCUSSION

The sample selection process was carried out using purposive sampling in order to ensure that the observed companies met the requirements for variable measurement and regression analysis. From the initial population of 42 mining companies listed on the Indonesia Stock Exchange during 2022–2024, 27 companies fulfilled all criteria and generated 81 firm-year observations. The reduction in sample size mainly resulted from incomplete financial reports and the absence of consistent profitability data during the observation period.

Table 2. Sample Selection Procedure

No.	Criteria	Number of Companies
1	Mining companies listed consecutively on the Indonesia Stock Exchange during 2022–2024	42
2	Companies that did not publish complete annual reports and audited financial statements	(11)
3	Companies that did not meet the profitability/data completeness criteria during the observation period	(4)
	Final sample of companies	27
	Total firm-year observations (27 × 3 years)	81

Source: compiled from the research data and sample screening results.

Descriptive Statistics

Descriptive statistics were used to provide an initial overview of the distribution and dispersion of the variables before the inferential tests were conducted. Table 3 shows that the study covered 81 observations for all variables. The values suggest that the sampled companies were heterogeneous, particularly in profitability, audit fee, and F-Score, which supports the use of regression analysis to identify which fraud hexagon elements are more strongly associated with financial statement fraud.

Table 3. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Financial Statement Fraud (F-Score)	81	-1.14	3.58	0.4768	0.85500
Pressure (ROA)	81	0.00	3.18	0.1933	0.36824
Opportunity (Receivable)	81	-0.18	0.14	-0.0053	0.05346
Rationalization (TATA)	81	-0.17	3.04	0.0169	0.34907
Capability (KOMUTedu)	81	0	1	0.6543	0.47855
Ego (DIRUTdualrole)	81	0	1	0.8519	0.35746
Collusion (LnFee)	81	12.64	23.11	19.4260	3.16248

Source: processed from the SPSS output reported in the research draft.

The mean F-Score of 0.4768 indicates that, on average, the sampled companies showed a moderate level of financial statement fraud risk. However, the wide range from -1.14 to 3.58

and the relatively large standard deviation suggest substantial variation among firm-year observations.

Pressure, proxied by ROA, had a mean of 0.1933. This shows that profitability pressure was generally low to moderate across the sample, although some observations recorded relatively high values. Opportunity and rationalization both recorded low mean values, indicating that revenue-related discretion and aggressive accrual behavior were not uniformly high among the sampled firms.

The dummy variables show that 65.43 percent of the observations were categorized as having relevant educational capability in the top supervisory position, while 85.19 percent of the observations indicated that the president director held a concurrent strategic role. Meanwhile, the mean audit fee proxy of 19.4260 suggests moderate to high variation in external audit engagement across mining firms.

Model Diagnostics and Classical Assumption Tests

Before interpreting the regression model, classical assumption tests were conducted to evaluate normality, multicollinearity, heteroscedasticity, and autocorrelation. The results indicate that the model met the minimum assumptions required for multiple linear regression. To keep the article concise and aligned with journal style, the essential results are summarized in Table 4 rather than being reported in separate long-form subsections.

Table 4. Summary of Classical Assumption Tests

Test	Indicator	Result	Interpretation
Normality	Kolmogorov–Smirnov Sig.	0.200	Residuals are normally distributed
Multicollinearity	Tolerance range	0.145–0.946	No tolerance value below 0.10
Multicollinearity	VIF range	1.057–7.119	No VIF value above 10
Heteroscedasticity	Glejser significance range	0.068–0.843	No heteroscedasticity detected
Autocorrelation	Durbin–Watson	1.636	No serious autocorrelation indication

Source: summarized from the regression diagnostic output in the research draft.

The normality test produced an Asymp. Sig. value of 0.200, indicating that the residuals were normally distributed. The multicollinearity test also confirmed that the independent variables did not exhibit problematic linear relationships because all tolerance values were above 0.10 and all VIF values were below 10. Likewise, the Glejser test suggested that the model was free from heteroscedasticity. The Durbin–Watson statistic of 1.636 further indicates that the residuals did not suffer from severe autocorrelation. Taken together, these results suggest that the regression model was sufficiently robust to proceed to coefficient interpretation.

Hypothesis Testing Results

The multiple regression model was used to test the partial effects of the six fraud hexagon variables on financial statement fraud, proxied by the F-Score. The hypothesis testing results reported in the research draft indicate that pressure does not have a statistically significant effect on financial statement fraud, whereas opportunity, rationalization, capability, ego, and collusion show statistically significant effects. Nevertheless, several significant variables display coefficient directions that are opposite to the initially proposed positive hypotheses. Therefore, the discussion below emphasizes both statistical significance and the observed direction of the relationship.

Table 5. Partial t-Test Results

Hypothesis	Proxy	t	Sig.	Decision
H1: Pressure to Financial Statement Fraud	ROA	1.836	0.070	Not supported
H2: Opportunity to Financial Statement Fraud	Receivable	-5.960	0.000	Supported

H3: Rationalization to Financial Statement Fraud	TATA	5.269	0.000	Supported
H4: Capability to Financial Statement Fraud	KOMUTedu	-6.069	0.000	Supported
H5: Ego to Financial Statement Fraud	DIRUTdualrole	-2.975	0.004	Supported
H6: Collusion to Financial Statement Fraud	LnFee	-2.146	0.035	Supported
LnFee	-0.051	0.031	-0.187	0.111

Source: adapted from the hypothesis testing output reported in the research draft.

Based on Table 5, pressure recorded t = 1.836 with Sig. 0.070, indicating that it did not significantly affect financial statement fraud at the 5 percent level. In contrast, opportunity recorded t = -5.960 with Sig. 0.000, rationalization recorded t = 5.269 with Sig. 0.000, capability recorded t = -6.069 with Sig. 0.000, ego recorded t = -2.975 with Sig. 0.004, and collusion recorded t = -2.146 with Sig. 0.035. These results indicate that five fraud hexagon elements were statistically significant in the model, although four of them showed inverse coefficient directions relative to the proposed positive hypotheses.

Table 6. Summary of Hypothesis Interpretation

Hypothesis	Proxy	Direction	Sig.	Decision
H1: Pressure to Financial Statement Fraud	ROA	Positive	0.070	Not supported
H2: Opportunity to Financial Statement Fraud	Receivable	Negative	0.000	Supported
H3: Rationalization to Financial Statement Fraud	TATA	Positive	0.000	Supported
H4: Capability to Financial Statement Fraud	KOMUTedu	Negative	0.000	Supported
H5: Ego to Financial Statement Fraud	DIRUTdualrole	Negative	0.004	Supported
H6: Collusion to Financial Statement Fraud	LnFee	Negative	0.035	Supported

Source: synthesized from the partial t-test results and the direction of the observed relationships.

Discussion of Findings

Pressure and Financial Statement Fraud

The partial t-test result shows that pressure, proxied by Return on Assets (ROA), does not have a significant effect on financial statement fraud (t = 1.836; Sig. = 0.070). This means that profitability-related pressure did not significantly explain the variation in F-Score among the sampled mining companies. In other words, the pressure faced by management to display favorable performance does not always translate into fraudulent reporting behavior in this sector.

This finding suggests that financial pressure in mining companies may be moderated by external scrutiny, industry monitoring, and the long-term nature of operational performance. The result contrasts with Tarjo et al. (2021), Achmad, Ghozali, and Pamungkas (2022), and Maharanti, Yudi, and Friyani (2024), who found pressure-related variables to be significant determinants of fraudulent financial reporting. However, it supports the broader view that the empirical role of pressure is highly dependent on the proxy used and the industrial setting under examination.

Accordingly, the first hypothesis stating that pressure has a positive effect on financial statement fraud is not supported in this study. This result indicates that pressure alone is not sufficient to explain fraud risk in the observed mining firms.

Opportunity and Financial Statement Fraud

Opportunity, proxied by the receivables ratio, has a statistically significant effect on financial statement fraud (t = -5.960; Sig. = 0.000). The significant result indicates that opportunity-related conditions matter in explaining fraud risk. However, the negative sign shows that the observed relationship moves in the opposite direction from the proposed positive hypothesis.

This result implies that when the receivable-based proxy increases, the F-Score tends to decline in the sampled firms. Substantively, this inverse direction may reflect the possibility that receivable fluctuations in mining companies are accompanied by tighter audit procedures, more conservative revenue recognition, or stronger internal monitoring. The result confirms that opportunity remains an important fraud dimension, although its empirical direction may vary across settings. This finding is in line with the inconsistent evidence reported by Fouziah, Suratno, and Djaddang (2022) and Rahmawati and Utami (2023), which shows that opportunity proxies do not always behave uniformly across industries and models.

Therefore, the second hypothesis is statistically supported in terms of significance, but the observed direction is negative rather than positive. This means that the opportunity variable affects financial statement fraud, although not in the direction initially proposed.

Rationalization and Financial Statement Fraud

Rationalization, proxied by Total Accrual to Total Assets (TATA), has a statistically significant effect on financial statement fraud (t = 5.269; Sig. = 0.000). The positive sign indicates that higher accrual-based rationalization is associated with a higher level of fraud risk. This finding suggests that aggressive accrual behavior can function as a form of managerial justification in presenting financial statements more favorably.

The result supports the conceptual role of rationalization in the fraud hexagon, where management may morally or operationally justify reporting decisions that ultimately distort financial information. This finding is consistent with Tarjo et al. (2021) and Oktavia et al. (2022), who found that rationalization-related proxies contributed to fraud detection. At the same time, the result differs from Nugroho and Diyanty (2022), showing once again that the fraud hexagon remains sensitive to proxy selection and sectoral context.

Thus, the third hypothesis stating that rationalization has a positive effect on financial statement fraud is supported. Among the significant variables in this study, rationalization is the only one whose observed direction fully matches the proposed positive hypothesis.

Capability and Financial Statement Fraud

Capability, proxied by the educational relevance of the top supervisory leader, has a statistically significant effect on financial statement fraud (t = -6.069; Sig. = 0.000). This result shows that capability matters in explaining fraud risk, but the relationship is negative. Therefore, the variable is significant, yet the sign moves in the opposite direction from the proposed positive hypothesis.

A possible explanation is that a relevant educational background in economics, accounting, management, or business may strengthen oversight and analytical judgment rather than facilitate fraud. In this case, capability may operate as a governance-strengthening factor instead of a fraud-enabling factor. This finding differs from Novarina and Triyanto (2022) and Hasna and Novianti (2024), who reported capability-related proxies as positively associated with fraud risk. The difference suggests that the educational proxy used in this study captures a distinct aspect of capability compared with authority-based or turnover-based measures used in prior research.

Accordingly, the fourth hypothesis is statistically supported in terms of significance, but the coefficient direction is negative. This means capability affects financial statement fraud, although not in the positive direction initially expected.

Ego and Financial Statement Fraud

Ego, proxied by the dual role of the president director, also has a statistically significant effect on financial statement fraud (t = -2.975; Sig. = 0.004). The significant result indicates

that ego-related characteristics remain relevant in the fraud hexagon framework. However, the negative sign suggests an inverse relationship between the dual-role proxy and the F-Score.

This finding implies that concurrent strategic roles held by the president director do not necessarily intensify managerial arrogance in the sampled mining companies. In certain governance settings, role concentration may instead support coordination, tighter control, or faster strategic supervision. Even so, the significant result confirms that ego remains an important explanatory factor. This result is comparable to Achmad et al. (2023), who found arrogance to be significant in the banking sector, and to Tarjo et al. (2021), who also reported a significant ego-related effect in fraud detection.

Therefore, the fifth hypothesis is statistically supported in terms of significance, but the observed effect is negative rather than positive. This shows that ego influences financial statement fraud, although the proxy used in this study reflects the relationship in an inverse direction.

Collusion and Financial Statement Fraud

Collusion, proxied by the natural logarithm of audit fee, has a statistically significant effect on financial statement fraud ($t = -2.146$; Sig. = 0.035). Similar to opportunity, capability, and ego, the relationship is significant but moves in the opposite direction from the proposed positive hypothesis. This indicates that collusion-related conditions, as captured by the audit fee proxy, matter in explaining fraud risk, although the direction is inverse.

The negative sign may indicate that higher audit fees are associated with more extensive audit procedures, broader audit scope, or higher audit quality, which in turn may reduce the risk of undetected fraudulent reporting. Hence, the audit fee proxy may simultaneously reflect collusion risk and stronger external scrutiny. This result differs from Handoko (2021) and Maharanti et al. (2024), who found collusion to be positively associated with fraud risk. The difference reinforces the view that collusion is among the most proxy-sensitive dimensions in fraud hexagon research.

Accordingly, the sixth hypothesis is statistically supported in terms of significance, but the observed direction is negative. This means collusion affects financial statement fraud, although not in the positive direction initially proposed.

Synthesis of Findings

Overall, the results indicate that the fraud hexagon framework remains relevant in explaining financial statement fraud in mining companies, but its dimensions do not operate uniformly. Pressure does not have a significant effect, while opportunity, rationalization, capability, ego, and collusion show statistically significant effects. Nevertheless, only rationalization follows the proposed positive direction, whereas opportunity, capability, ego, and collusion show inverse relationships. These findings imply that the explanatory power of fraud hexagon variables is highly sensitive to proxy selection and sectoral characteristics. Therefore, interpretation of fraud hexagon results should consider not only significance but also how each proxy represents the underlying concept in a specific industrial context.

CONCLUSION

This study aims to examine the effect of the fraud hexagon elements, namely pressure, opportunity, rationalization, capability, ego, and collusion, on financial statement fraud in mining companies listed on the Indonesia Stock Exchange during the 2022–2024 period. Based on the hypothesis testing results, pressure does not have a significant effect on financial statement fraud. In contrast, opportunity, rationalization, capability, ego, and collusion have significant effects on financial statement fraud. In terms of coefficient direction, rationalization shows a positive relationship, whereas opportunity, capability, ego, and collusion show

negative relationships. These findings indicate that the fraud hexagon variables in this study do not work in a uniform direction, even though most of them are statistically relevant.

The findings suggest that the fraud hexagon framework remains useful for explaining financial statement fraud risk in mining companies, but the empirical interpretation of each element depends strongly on the proxy used. The insignificance of pressure and the inverse directions observed in several other variables indicate that sector-specific characteristics, governance structure, and proxy design can substantially influence the relationship between fraud hexagon elements and financial statement fraud. Therefore, future studies are encouraged to refine variable proxies, extend the observation period, and compare results across sectors in order to generate more robust evidence on fraud detection in Indonesia.

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