

## New fraud diamond theory: Why people commit fraudulent financial statements?

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### ABSTRACT

This study examines the determinants of fraudulent financial statements in Indonesia's non-bank financial industry by integrating the New Fraud Diamond Theory with Agency Theory. Specifically, it investigates the roles of financial targets, nature of industry, earnings management, and changes in directors as proxies for motivation, opportunity integrity, and capability, respectively. Using a quantitative approach, this study analyzes panel data from 53 non-bank financial institutions listed on the Indonesia Stock Exchange over the 2019-2022 period, yielding 212 firm-year observations. Fraudulent financial statements are measured using the Beneish M-Score model, while hypothesis testing is conducted through fixed-effects panel regression analysis. The empirical results indicate that financial targets, nature of industry, and earnings management significantly increase the likelihood of fraudulent financial reporting, whereas changes in directors do not exhibit a significant effect. These findings suggest that fraudulent financial statements are primarily driven by incentive pressure, discretionary accounting environments, and weakened managerial integrity rather than by leadership turnover. From an agency perspective, aggressive performance targets and information asymmetry intensify characterized by high estimation uncertainty. This study contributes to the fraud literature by providing empirical support for the New Fraud Diamond Theory in the context of non-bank financial institutions and highlights the critical role of integrity in translating pressure and opportunity into fraudulent behavior. The results offer practical implications for auditors, regulators, and investors in strengthening fraud risk assessment, ethical governance, and financial reporting oversight.

### Introduction

Fraud is still a big problem today. According to the Report to the Nations, 1,483 fraud cases occurred in 100 countries in 2014, and in 2022, the number reached 2,110 in 122 countries, causing losses of more than \$3.7 trillion (ACFE, 2024). The survey results show that fraud cases, including those in Indonesia, are increasing and spreading worldwide.

The three types of fraud ACFE categorizes are asset misappropriation, corruption, and fraudulent financial statements. Asset misappropriation is the most prevalent type of fraud, accounting for 86% of reported occurrences. Nevertheless, this scheme often results in a minimal loss of USD 100,000 for each instance. Conversely, fraudulent financial statements are the least prevalent category, including only 9% of cases, resulting in the most significant financial loss of USD 593,000. Therefore, it can be concluded that perpetrators of fraudulent financial statement schemes can steal more substantial amounts than asset misappropriation or corruption schemes and will ultimately be very detrimental to various parties.

Fraud is prevalent in multiple areas, with banking and financial services being the most susceptible (ACFE, 2024). The industry had a total of 351 cases, with an average loss of \$100,000 per case. An example of a fraud case in Indonesia in the Non-Bank Financial Industry is Asuransi Jiwasraya LLC, the oldest state-owned insurance company. It was found that there was window dressing, and the company had to correct the profit, which was initially Rp 2.4 T, to Rp 428 M so that the loss experienced by the state, in this case, amounted to Rp 16.8 T (Dharmayuni, 2022). In addition, Asabri LLC also committed fraud in financial management and investment funds (Hermiyetti, 2022). Asabri LLC sold the shares in its portfolio below the acquisition price, but the selling price was manipulated to be higher, so the state loss, in this case, amounted to IDR 23.7 T (Idris, 2021). These

cases occurred due to weak governance and integrity in the Non-Bank Financial Industry, as described in SP 61/GKPB/OJK/VI/2023 (OJK, 2023).

The occurrence of cases that harm state finances, especially fraudulent financial statements, should be a concern for everyone. According to Riskiyadi (2025), fraudulent financial statements can cause considerable losses, damage a company's long-term viability, and potentially lead to bankruptcy. Identifying the underlying causes of fraud is crucial to prevent it from developing into a severe problem that motivates individuals to engage in fraud so that it does not become a big problem.

Some theories are used to identify the factors that cause fraud. The first detection theory developed by Cressey (1953) is the Fraud Triangle Theory, which states that three things influence a person to commit fraud: pressure, opportunity, and rationalization. In its development, Wolfe and Hermanson (2004) added the element of capability because fraud can only be committed by the right people. Gbegi and Adebisi (2013) then modified the fraud diamond theory by replacing the third element of rationalization with personal integrity. According to Gbegi and Adebisi (2013), the fraud scale should incorporate integrity rather than rationalizations. Cases of fraudulent financial statements are especially relevant, where observable sources of pressure (sales history, profit growth, and earnings management) are more prevalent. Integrity can be observed through the decision-making process and the decisions themselves.

This study uses the latest model, the new fraud diamond, which previous studies have rarely used. The new fraud diamond is an enhancement of the fraud triangle, and the fraud diamond is specifically designed to detect why someone commits fraud on financial statements in the non-bank financial industry. The selection of the Non-Bank Financial Industry is based on the ACFE survey, which states that Financial Services are a sector often affected by fraud cases. Asuransi Jiwasraya LLC and Asabri LLC committed giant fraud cases that caused state losses of trillions of rupiah. In addition, the governance of the Non-Bank Financial Industry still needs to strengthen integrity and internal control systems, as described in SP 61/GKPB/OJK/VI/2023. Based on these several reasons, it is concluded that the Non-Bank Financial Industry is a sector prone to fraud, so it is suitable as a sample to test the New Fraud Diamond Theory.

## Literature Review

### Agency Theory

Agency theory elucidates the dynamic connection between principals and agents in a working context. In business, the working relationship in question refers to the relationship between management and investors, who have different interests and ultimately cause conflicts of interest (Jensen & Meckling, 1976). Furthermore, agency relationships inherently generate conflicts of interest between principals and agents, largely stemming from information asymmetries. Information asymmetry arises when one party holds superior or more comprehensive information. In the corporate context, managers, acting as agents, possess more extensive knowledge of internal operations and future firm prospects than shareholders as principals. Therefore, financial statements are intended to reduce information asymmetry by providing relevant and reliable information regarding a firm's financial position and performance. Nevertheless, persistent information gaps and divergent interests within agency relationships may create incentives for managers to manipulate financial statements to serve their objectives.

### New Fraud Diamond Theory

This theory results from modifying the fraud diamond theory of Wolfe and Hermanson (2004). The difference lies in the element of rationalization, which is replaced by the element of personal integrity. According to Gbegi and Adebisi (2013), it is better to use integrity than rationalization to detect fraudulent financial statements because rationalization is not included in corporate governance. There are sources of pressure in financial statements, such as sales history, revenue growth, and earnings management, that can show the integrity of management in their decisions and decision-making processes. Therefore, in the new fraud diamond theory, four factors can cause someone to commit fraud: pressure, opportunity, integrity, and capability.

Financial targets can create a risk of excessive pressure on management to achieve profit goals set by the board of directors or management to obtain incentives based on sales or profits (AICPA, 2002). Calculating return on assets (ROA) is one method to evaluate management performance when deciding bonuses, salary increases, and other incentives. According to agency theory, managers may falsify financial statements to make them look favorable to investors because they have different interests from company owners and want to continue generating profits for themselves. The higher the company's ROA target, the more vulnerable management becomes to manipulating profits, which becomes a fraudulent financial statement (Riskiyadi, 2025). Research by Khamainy, Ali, et al. (2022) and Khamainy, Amalia, et al. (2022) indicates that financial targets impact fraudulent financial statements, which supports this opinion.

H<sub>1</sub>: Financial targets positively influence fraudulent financial statements.

SAS No. 99 defines the nature of the industry as the uncertainties that emerge in a corporation when its operations rely on approximations. Companies that rely heavily on estimates are highly susceptible to fraudulent activities (Soltani et al., 2023). According to Gunariato et al. (2022), inventory and receivables require subjective judgment in estimating bad debts or obsolete inventory. The estimation of bad debts can be determined from the final balance of the accounts receivable method and the aged accounts receivable method. Based on age, long-overdue receivables are doubtful to be collected, which can create opportunities for management to manipulate the age of receivables to attract investors (Haqq & Budiwitjaksono, 2020). Gunariato et al. (2022) investigated receivables and inventory, discovering that the condition of inventory and receivables varied between organizations that committed fraud and those that did not. Khamainy, Ali, et al. (2022) showed that nature of industry affects fraudulent financial statements. This finding supports the above statement.

H<sub>2</sub>: Nature of industry positively influences fraudulent financial statements.

Earnings management refers to any managerial action that affects the reported earnings of financial statements (Khamainy, Amalia, et al., 2022). If management fails to achieve the profit target when preparing financial statements, they can change the reported profit by utilizing the flexibility granted by accounting rules. Furthermore, fraudulent financial statements typically begin with minor misstatements and manipulation of earnings in financial reports that may initially seem insignificant but gradually escalate into serious fraud. Research by Khamainy, Ali, et al. (2022) provides evidence that supports the claim above, stating that earnings management significantly affects the occurrence of fraudulent financial statements.

H<sub>3</sub>: Earnings management positively affects fraudulent financial statements.

Skilled or competent people in an organization may engage in fraudulent activities (Obloh et al., 2025). Individuals with essential roles, such as division heads, directors, or CEOs, are considered particularly influential. Changes in the board of directors occur due to several factors. First, new directors are selected based on their superior performance compared to the previous director or specific political interests aimed at replacing the previous director (Skousen et al., 2009). Therefore, in organizations that frequently change directors, there is a potential for fraudulent activities, as it is believed that the outgoing directors know the company's dishonest practices. The statement above is confirmed by the findings of Hermiyetti (2022) and Jaswadi et al. (2024), which state that changes in directors can impact the occurrence of fraudulent financial statements.

H<sub>4</sub>: *Change of directors positively affects fraudulent financial statements.*

The current study proposes the research framework presented in Figure 1.

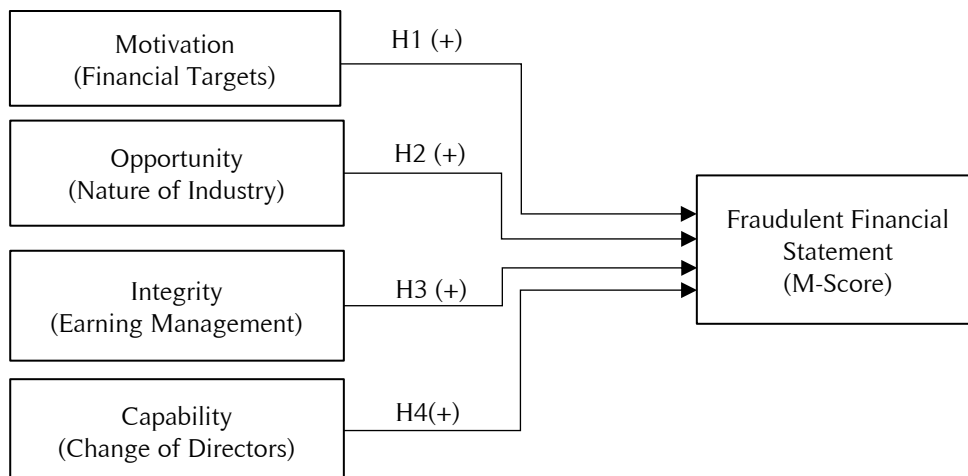


Figure 1. Research Model

Research Method

This study used a quantitative methodology. The population in this study is Non-Bank Financial Industry (IKNB) companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2022. The sample was obtained using a purposive sampling technique, obtaining a sample of 53 companies per year from 2019 to 2022. Therefore, a total of 212 samples were used in this study. The data used in this study are classified as secondary data obtained from the financial statements of Non-Bank Financial Industry companies listed on the Indonesia Stock Exchange (IDX) during the 2019-2022 period via the official website of the Indonesia Stock Exchange (www.idx.co.id) and relevant company websites.

## Dependent Variable

Fraudulent financial statements occur when individuals with authority in a company deliberately manipulate significant numbers to deceive investors, creditors, and other financial statement users (du Toit, 2024; Skousen et al., 2009). This study uses M-Score to measure fraudulent financial statements with the following formula:

$$\text{MSCORE} = -4.84 + (0.920 * \text{DSRI}) + (0.528 * \text{GMI}) + (0.404 * \text{AQI}) + (0.892 * \text{SGI}) + (0.115 * \text{DEPI}) - (0.172 * \text{SGAI}) - (0.327 * \text{LVGI}) + (4.697 * \text{TATA})$$

To explain the measurement criteria used in the M-Score model, Table 1 presents the financial ratios and their respective calculations.

Table 1. M-Score Model Ratio

Financial Ratios	Sampling Criteria
Days sale in receivable index	$\text{DSRI} = \frac{(\text{Net Receivables } t / \text{Sales } t)}{(\text{Net Receivables } t-1 / \text{Sales } t-1)}$
Gross margin index	$\text{GMI} = \frac{(\text{Gross Profit } t-1 / \text{Sales } t-1)}{(\text{Gross Profit } t / \text{Sales } t)}$
Asset quality index	$\text{AQI} = \frac{[1 - (\text{Current Asset } t + \text{Fixed Asset } t) / \text{Total Asset } t]}{[1 - (\text{Current Asset } t-1 + \text{Fixed Asset } t-1) / \text{Total Asset } t-1]}$
Sales growth index	$\text{SGI} = \frac{\text{Sales } t}{\text{Sales } t-1}$
Depreciation index	$\text{DEPI} = \frac{[\text{Depreciation } t - 1 / (\text{Depreciation } t - 1 / \text{Fixed Asset } t - 1)]}{[\text{Depreciation } t / (\text{Depreciation } t / \text{Fixed Asset } t)]}$
SG&A expense index	$\text{SGAI} = \frac{\text{SG\&A Expense } t / \text{Sales } t}{\text{SG\&A Expense } t-1 / \text{Sales } t-1}$
Leverage index	$\text{LVGI} = \frac{[(\text{CL } t + \text{Long Term Debt } t) / \text{Total Assets } t]}{[(\text{CL } t-1 + \text{Long Term Debt } t-1) / \text{Total Assets } t-1]}$
Total accrual to total asset index	$\text{TATA} = \frac{(\text{NI from Continuing Operations} - \text{CFO})}{\text{Total Assets}}$

Source: Skousen et al. (2009)

To provide a clearer description of the research variables, Table 2 presents the independent variables, operational definitions, and measurement indicators used in this study.

Table 2. Independent Variables

Variable	Definition	Indicator
Financial Target (X1)	Ratio of net profit to total assets in the previous year	$\text{ROA } (t-1) = \frac{\text{Net Income } (t-1)}{\text{Total Asset } (t-1)}$
Nature of Industry (X2)	Change in accounts receivable to sales ratio	$\text{REC} = \frac{\text{Receivable } (t)}{\text{Sales } (t)} - \frac{\text{Receivable } (t-1)}{\text{Sales } (t-1)}$
Earning Management (X3)	The abnormal level of accruals	$\text{DACCit} = \text{TACCit} / \text{Ait-1} - \text{NDACCit}$
Change of Director (X4)	Change in the BOD during the study period	There was a change in the BOD=1; otherwise=0

Hypothesis testing in this study uses panel data regression analysis with the following regression equation model:

$$\text{MSCORE} = \beta_0 + \beta_1 \text{ROA} + \beta_2 \text{REC} + \beta_3 \text{DACC} + \beta_4 \text{DCHANGE} + \varepsilon$$

Where:

MSCORE = fraudulent financial statement

ROA = financial target

REC = nature of industry

DACC = earning management

DCHANGE = change of director

## Result and Discussion

An overview of the descriptive statistical results is presented in Table 3. These results provide information about the minimum, maximum, mean, and standard deviation of each research variable. The motivation variable, as measured by financial targets (ROA), ranges from -1.370 to 8.300, with a mean value of 0.037 and a standard deviation of 0.590. The value of the opportunity variable measured using industrial culture (REC) ranges from -37.730 to 35.440, with an average value of -0.048 and a standard deviation of 4.187. With an average value of -

0.028 and a standard deviation of 0.201, the personal integrity variable measured using earnings management (DACC) is between -1.370 and 1.000. The value of the capability variable, as measured by the change of directors (DCHANGE), ranges between 0 and 1, with an average value of 0.377 and a standard deviation of 0.486. Meanwhile, the last variable is the fraudulent financial statement variable measured by M-Score, which has a variable value running from -95.780 to 122.820 with an average of -1.489 and a standard deviation of 14.623. The current research employed panel regression analysis using a fixed effects model, considering the results of likelihood tests (Hausman, Chow, and Lagrange Multiplier tests). Table 4 describes results of regression analysis.

Table 3. Descriptive Statistical

Description	ROA	REC	DACC	DCHANGE	MSCORE
Mean	0.038	-0.048	-0.028	0.377	-1.489
Maximum	8.300	35.440	1.000	1.000	122.820
Minimum	-1.370	-37.730	-1.370	0.000	-95.780
Std. Deviation	0.590	4.187	0.201	0486	14.623
N	212	212	212	212	212

Source: Processed data

Table 4. Panel Regression Test

Variable	Coefficient	t-Statistic	Prob.	Information
C	-2.157			
Motivation (ROA)	6.178	4.011	0.000	Supported
Opportunity (REC)	0.743	3.724	0.000	Supported
Integrity (DACC)	10.333	2.120	0.036	Supported
Capability (DCHANGE)	2.024	0.960	0.339	Not Supported
Adjusted R-squared	0.332			
F-statistic	2.874			
Prob (F-statistic)	0.000			

Source: Processed data

This study advances the understanding of fraudulent financial statements by jointly applying the New Fraud Diamond Theory and Agency Theory. The findings demonstrate that financial targets, the nature of the industry, and integrity significantly increase the likelihood of fraudulent financial reporting, while changes in directors do not exhibit a significant effect. These results highlight that fraud is predominantly shaped by incentive misalignment, discretionary accounting environments, and ethical judgment rather than formal changes in leadership structures.

From the perspective of Agency Theory, financial targets represent a central source of conflict between principals and agents. Shareholders expect management to maximize firm value, whereas managers are often evaluated and rewarded based on their short-term financial performance. When performance indicators such as Return on Assets (ROA) are set at ambitious levels, management faces heightened pressure to meet externally visible benchmarks (de Oliveira Orth et al., 2024; Setiawan & Soewarno, 2025). Within the New Fraud Diamond framework, this condition reflects the pressure element, whereby unmet expectations motivate opportunistic behaviors. When actual operating results fall short, managers may resort to earnings manipulation to protect their personal benefits, maintain market credibility, or avoid reputational damage. This finding reinforces the argument that performance-based incentive systems, if not carefully designed, can unintentionally encourage fraudulent financial reporting (AICPA, 2002; Biduri & Tjahjadi, 2026).

The significant influence of the nature of the industry on fraudulent financial statements further supports the opportunity component of the New Fraud Diamond Theory. Industries characterized by high estimation uncertainty and accounting subjectivity, particularly in receivables and inventory valuation, provide managers with greater discretion in financial reporting (Nejad et al., 2024). From an agency perspective, information asymmetry enables managers to exploit this discretion, as external stakeholders lack full visibility into the assumptions underlying accounting estimates (Mohd Razmin et al., 2024; Riskiyadi, 2024). The ability to adjust receivable aging, estimate bad debts, or defer the recognition of uncollectible accounts allows management to temporarily conceal operational inefficiencies, such as poor cash turnover. Consequently, opportunity arises not solely from weak supervision, but from structural features of accounting practices that amplify managerial discretion under conditions of asymmetric information (Haldar et al., 2025; Mahadew & Dauhaje, 2025).

Integrity emerges as a critical behavioral dimension linking both theoretical frameworks. Within the New Fraud Diamond Theory, integrity reflects the moral boundary that determines whether pressure and opportunity translate into fraudulent actions (Dharmayuni, 2022; Mandal & S, 2025). From an agency standpoint, weak integrity

intensifies self-interested behavior, as managers rationalize earnings manipulation to justify deviations from the faithful representation. Earnings management often begins as a perceived acceptable adjustment within accounting flexibility but may evolve into intentional misstatements over time. This gradual escalation illustrates how ethical erosion enables managers to prioritize personal incentives over fiduciary duties, thereby increasing the risk of fraudulent financial statements (Lootah et al., 2025). The findings underscore that strong governance mechanisms alone are insufficient if ethical standards are not internalized at the individual level (de Oliveira Orth et al., 2024; Dharmayuni, 2022).

In contrast, the absence of a significant relationship between changes in directors and fraudulent financial statements suggests a limited role for capability in this context. Director turnover appears to be primarily performance-driven and aimed at organizational improvement rather than facilitating fraud or concealing past misconduct. From an agency perspective, replacing directors may even reduce information asymmetry and strengthen monitoring if new appointees introduce enhanced expertise and oversight (Shuto, 2025). These results indicate that capability, as conceptualized in the New Fraud Diamond Theory, does not independently trigger fraud unless reinforced by strong pressure, available opportunities, and compromised integrity. Thus, leadership changes alone are insufficient to explain fraudulent financial reporting without considering broader incentive and ethical conditions (Simbolon, 2025).

Overall, this study demonstrates that fraudulent financial statements are best understood as the outcome of interacting agency conflicts and fraud-enabling conditions (du Toit, 2024; Riskiyadi, 2024). Pressure arising from aggressive financial targets, opportunities embedded in discretionary accounting environments, and weakened integrity jointly create fertile ground for fraud, while capability plays a conditional role. These insights carry important implications for practice. Auditors should prioritize risk assessments that focus on incentive structures, subjective accounting estimates, and patterns of earnings management (Mandal & S, 2025). Investors and creditors are encouraged to critically evaluate the sustainability of reported profits and the quality of accrual-based accounts. For firms, aligning performance targets with long-term value creation, strengthening ethical culture, and reducing excessive discretion in financial reporting are essential steps toward mitigating fraudulent financial statements (Nejad et al., 2024; Oboh et al., 2025; Soltani et al., 2023).

## Conclusion

Motivation, opportunity, and personal integrity significantly influence fraudulent financial statements. Management may be driven to manipulate financial statements if they cannot meet established financial targets, mainly when there is a strong emphasis on achieving a high return on assets (ROA) from the previous year. Financial statement manipulation can also arise from industry culture that involves subjective judgments to estimate accounts receivable, such as changing the age of maturity to eliminating long-term receivables. In addition, decisions that are often made by management, such as earnings management, have the potential to commit fraudulent financial statements because fraud is frequently preceded by misstatements and earnings management that are considered immaterial (Md Nasir & Hashim, 2021; Omukaga, 2020). Meanwhile, the capability variable with the proxy for the change of directors is unrelated to the occurrence of fraudulent financial statements in the company. The company changed directors due to the directors' performance, not because the directors knew of fraud.

Users of financial statements, such as investors, creditors, and financial analysts, have the potential to experience significant financial losses when making investment decisions, providing loans, and evaluating company performance because they use manipulated information. Therefore, users of financial statements must conduct a thorough analysis and seek additional information before making decisions (Doss & Bacha, 2026). Management involvement in financial statement fraud can lead to severe legal and regulatory consequences and potential substantial harm to the company's reputation (Demetriades & Owusu-Agyei, 2022; du Toit, 2024). In addition, it could jeopardize the company's operational sustainability and hinder its capacity to obtain funding from financial markets. Financial statement fraud is considered a dereliction of duty by auditors, as it involves failing to identify and disclose any instances of non-compliance or manipulation that may arise during an audit. Such actions can undermine the professionalism and independence of the auditor, which may result in legal action and damage the reputation of the audit firm in question (Kazemian et al., 2019; Salihu, 2025).

However, this study has several limitations, so it provides several suggestions for future research. The research period includes the COVID-19 pandemic, which may affect financial statement accounts such as income and expenses, so further research can exclude the COVID-19 period. Sample companies cannot provide one of the data needed in the research measurement tool, namely inventory, so the financial statement fraud measurement tool only uses the M-Score. Further research can choose the manufacturing or other sectors presenting complete research data. This study only partially supports the new fraud diamond model because it has not been able to prove the capability variable as measured by the change of directors. Further research can reassess using different measuring instruments such as CEO education, CEO age, directors with finance or accounting education, and board experience.

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