

Fraud Triangle and Financial Statement Fraud: Moderating Role of Audit Committee and Independent Commissioner

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ABSTRACT

This research investigates the impact of the fraud triangle on FSF, as well as the moderating roles of the audit committee and independent commissioners in Indonesian state-owned enterprise (SOE). The fraud triangle is proxied by financial targets, nature of industry, and auditor changes. A quantitative research design is employed, utilizing secondary data derived from the annual reports of non-bank state-owned enterprise (SOE) for the 2021–2024 period. A purposive sampling method resulted in 33 companies, yielding 115 firm-year observations after outlier elimination. FSF is assessed by applying the Beneish M-Score, while hypothesis testing is carried out by means of multiple linear regression and MRA. The findings reveal that financial targets positively influence FSF, whereas the nature of the industry is negatively associated with FSF, and auditor changes do not have a significant impact on FSF. Moderation analysis shows that the audit committee is not able to moderate the relationship between the fraud triangle and FSF. Meanwhile, the independent commissioner strengthened the link between financial targets and auditor changes with the FSF. Other variables cannot directly influence FSF. These findings provide practical implications for SOE governance in the post COVID-19 period. Strengthening the independence and monitoring capacity of commissioners is essential, particularly in overseeing financial targets and auditor transitions. In addition, SOEs should reinforce inventory control systems and enhance the effectiveness of audit committees to ensure substantive oversight in mitigating FSF risk.

Keywords: Fraud Triangle; Audit Committee; Independent Commissioner; Financial Statement Fraud

INTRODUCTION

Financial reports are essential decision-making tools for various stakeholders and are expected to be understandable, relevant, reliable, and comparable, yet despite their crucial role they remain vulnerable to FSF that can occur across organizations and professional backgrounds. Based on Association of Certified Fraud Examiners (ACFE) Indonesia (2022) in Asia-Pacific Occupational Fraud 2022: A Report to the Nations, Indonesia ranked fourth in the Asia-Pacific region with 23 reported fraud cases in 2022, of which 6,7% involved FSF. A highly notable case involved the manipulation of financial statements at PT Jiwasraya (Persero). In 2018, the company was unable to fulfill insurance claims amounting to Rp802 billion, which was later linked to profit manipulation, high-risk investment decisions, and imprudent fund management (cnbnindonesia.com, 2025). An audit by the Supreme Audit Agency (BPK) revealed that the reported net profit of Rp360.3 billion in 2017 did not represent Jiwasraya's actual financial condition, leading to state losses of Rp16.8 trillion (bpk.go.id, 2020). Comparable practices were also identified at PT Indofarma Tbk and its subsidiary, PT Indofarma Global Medika, during the 2020–2023 period. In this case, management engaged in financial statement manipulation through the recognition of fictitious receivables, fabricated purchase and sales transactions, and false



discount claims to conceal losses and obtain personal benefits, resulting in state losses of Rp371.8 billion (story.kejaksaan.go.id, 2024).

The cases of Jiwasraya and Indofarma demonstrate that financial statement fraud in state-owned enterprises arises not only from weaknesses in internal control, but also from managerial pressure and rationalization. The fraud triangle theory is adopted as the primary theoretical lens in this study because it offers a parsimonious yet robust framework for explaining fraudulent behavior through three key elements: pressure, opportunity, and rationalization. Despite the emergence of more recent models such as the fraud hexagon, the fraud triangle remains particularly relevant in the context of state-owned enterprise (SOE), where these dimensions are more observable and can be empirically proxied using available secondary data. In this study, pressure is proxied by financial targets, opportunity by the nature of industry, and rationalization by auditor changes, all of which can be measured using publicly disclosed financial and governance information. In contrast, additional dimensions introduced in extended frameworks, such as capability, ego, or collusion, tend to involve behavioral and psychological aspects that are difficult to capture through archival data and often require primary or qualitative approaches. Building on this framework, effective corporate governance mechanisms are essential in mitigating FSF. The audit committee plays a critical role in ensuring the adequacy of internal control systems and compliance with reporting standards, thereby limiting opportunities for fraud, while independent commissioners provide objective oversight that can help reduce managerial pressure and weaken the rationalization of unethical behavior. Accordingly, the fraud triangle remains a relevant and practical framework for understanding and preventing FSF in SOE, particularly when complemented by strong governance structures.

According to the research conducted by Aditya, (2025), Hakim, Hamdani, et al. (2024), Herbenita et al. (2022), Nareswari & Widhiyani, (2025), pressure represented by financial targets exerts a positive influence on FSF. Meanwhile, the findings derived from Achmad et al. (2023), Fitrianiingsih & Bandi, (2024), Jamilah & Harto, (2025), Rahman et al. (2020), Sari et al. (2020) reveal that financial targets do not positively influence the occurrence of FSF. The opportunity aspect is assessed using indicators related to the nature of industry. In this case Arum et al. (2024), Hakim, Hamdani, et al. (2024), Saleh et al. (2021), who demonstrated that the nature of industry increase the likelihood of FSF. However, different results were reported by Aditya, (2025), Fathmaningrum & Anggarani, (2021) and Hakim, Wisdom, et al., (2024), who stated that the nature of industry negatively affects FSF. The construct of rationalization is operationalized through auditor changes. Drawing on previous research findings Abidin et al. (2025), Fitrianiingsih & Bandi, (2024), Jamilah & Harto, (2025), a change in auditor has been found to positively influence FSF. Meanwhile, Achmad et al. (2022), (2023), Hakim, Hamdani, et al. (2024), Nareswari & Widhiyani, (2025) concluded that a change in auditor does not influence FSF.

The audit committee plays a pivotal role in ensuring managerial decisions are consistent with governance standards and mitigating FSF, yet empirical findings reveal inconsistencies in its moderating effect across key factors. Studies by Hakim, Wisdom, et al. (2024) and Riyanti & Trisanti, (2021) The audit committee is capable of moderating the effect of financial targets on FSF. Meanwhile, Hakim, Wisdom, et al., (2024), Nikmah & Arjoen, (2023), Noviani et al., (2024) and Rohmatin et al., (2021) found that the audit committee did not succeed in moderating the relationship between financial targets and FSF. Similarly, Hakim, Wisdom, et al. (2024) and Sari et al. (2022) show the committee can reduce fraud risks stemming from industry nature, in contrast to Hakim, Wisdom, et al., (2024), Hasna & Novianti, (2024), Safriliana & Ramadhan, (2025) who report no such moderation. According to the findings of Hakim, Wisdom, et al. (2024) research, the audit committee can moderate the relationship between auditor changes and FSF. In contrast, research by Hakim, Wisdom, et al., (2024), Luhri et al., (2021), Nikmah & Arjoen, (2023), Rifaldi & Indrabudiman, (2022) This indicates that the audit committee is not able to moderate the effect of auditor changes on FSF.

Studies examining the influence of independent commissioners in mitigating FSF continue to report mixed and inconsistent findings. Sari et al., (2020) and Suwardi & Riyadi, (2024) state that independent commissioners can moderate the link between financial targets and FSF. In contrast, Retnoningtyas & Tarmizi, (2022) found that independent commissioners are unable to

moderate the association between financial targets and FSF. In the aspect of opportunities for fraud Sudarmanto et al. (2025), who stated that independent commissioners are capable of moderating the relationship between the nature of industry and FSF. However, this contrasts with the conclusions of Sari et al., (2024), it has been stated that independent commissioners are capable of moderating the influence of the nature of industry on FSF. Likewise in the aspect of changing auditor, Sari et al. (2024) findings, which indicate that independent commissioners can moderate the link between auditor changes and FSF. In contrast, Retnoningtyas & Tarmizi, (2022), Sari et al. (2020), Sudarmanto et al. (2025) argue that independent commissioners are not effective in moderating the relationship between auditor changes and FSF.

This study is similar to prior research by Anisykurlillah et al., (2022), Aripin et al., (2022), Rahman et al., (2020), Rahmawati & Pramesty, (2024), and Reskino & Bilkis, (2022) in examining the elements of the fraud triangle in relation to FSF. This study extends earlier studies (Herbenita et al., 2022) by incorporating the audit committee and independent commissioner as moderating variables in analyzing the relationship between the fraud triangle and FSF in Indonesian SOE. These governance mechanisms are chosen because they play a crucial role in strengthening oversight and reducing the likelihood of FSF. In addition, this study uses the 2021-2024 period, which represents the post COVID-19 pandemic era, when state-owned enterprises face financial pressures, strict performance targets, and increasingly high demands for transparency and accountability. During this period, the roles of audit committees and independent commissioners have become progressively more vital in safeguarding the integrity of financial reporting and deterring fraudulent activities. The main objective of this study is to investigate the association between the components of the fraud triangle and FSF, as well as to assess how audit committee mechanisms and independent commissioners may moderate this relationship within SOE.

LITERATURE REVIEW

Fraud Triangle Theory

The fraud triangle theory is the initial framework that describes the factors contributing to fraudulent activities. Fraud is driven by three main elements: pressure, opportunity, and rationalization (Cressey, 1953). Pressure, which is proxied by financial targets, such as profit growth reflected in Return on Assets (ROA), creates pressure on management to consistently improve performance in each reporting period, which may encourage FSF when targets are difficult to achieve (Achmad et al., 2022). Opportunity is represented by the characteristics of the industry, which reflects the company's condition and stability within its industrial competition (Fathmaningrum & Anggarani, 2021). Rationalization is represented by auditor change, as frequent auditor changes within a short time may signal higher fraud risk, since new auditors need time to become familiar with the company's financial situation (Safrihana & Ramadhan, 2025).

Agency Theory

Agency theory, first introduced by Jensen & Meckling (1976), offers a fundamental framework for understanding the relationship between company owners and managers, where managers are delegated the authority to make decisions on behalf of the owners. The theory underscores the likelihood of agency conflicts stemming from divergent objectives and risk tolerances between principals and agents, a problem that becomes more pronounced due to unequal access to information (Eisenhardt, 1989). These conditions encourage opportunistic actions by agents, such as manipulating financial statements for personal benefit, especially when oversight and monitoring mechanisms are inadequate (Fitrianiingsih & Bandi, 2024). This phenomenon is particularly relevant in explaining the occurrence of financial statement fraud, as agents may intentionally misstate financial information to achieve performance objectives or protect the firm's reputation.

Financial Statement Fraud

FSF involves misstatements in financial reports where the disclosed information fails to adhere to established accounting principles (Puteri & Reskino, 2023). FSF can be classified into two types: financial and non financial (Maharanti et al., 2024). The fraud is typically carried out by

inflating revenue figures, minimizing reported expenses, or exaggerating the value of assets (Toit, 2024). Inaccurate financial statements undermine the credibility of financial information, causing users of the reports to make misguided decisions (Achmad et al., 2022). This condition may cause substantial losses for stakeholders, harm the company’s reputation, and bring legal repercussions to those responsible (Nejad et al., 2024). Hence, management must ensure that financial statement users receive proper and reliable information, making the audit process essential.

Audit Committee

The audit committee acts as an oversight body that monitors and evaluates the effectiveness of the company’s internal control structure and internal audit function, thereby helping to prevent and reduce the likelihood of FSF (Riyanti & Trisanti, 2021; Sobhan, Khatun, et al., 2025). A larger audit committee brings more diverse perspectives, strengthening its ability to thoroughly evaluate the external auditor’s role, responsibilities, and performance (Sobhan, Mim, et al., 2025). Its presence strengthens oversight of financial activities and supports the establishment of a more robust control environment (Asih et al., 2024). Thus, it is essential for the audit committee to have well developed analytical abilities in financial reporting (Safrihana & Ramadhan, 2025).

Independent Commissioners

An independent commissioner is a member of the board of commissioners who lacks any affiliations with the board of directors, other commissioners, or the controlling shareholder (Abbas & Frihatni, 2023; Marheni & Setiawan, 2025). They must also be free from any business or personal relationships that could impair their independence or hinder their ability to act exclusively in the company’s best interest. Independent commissioners serve to maintain balanced decision making, particularly to safeguard the rights and concerns of minority investors and other parties involved. Independent commissioners play a direct role in influencing the reliability and integrity of the financial statements prepared by management (Suwardi & Riyadi, 2024).

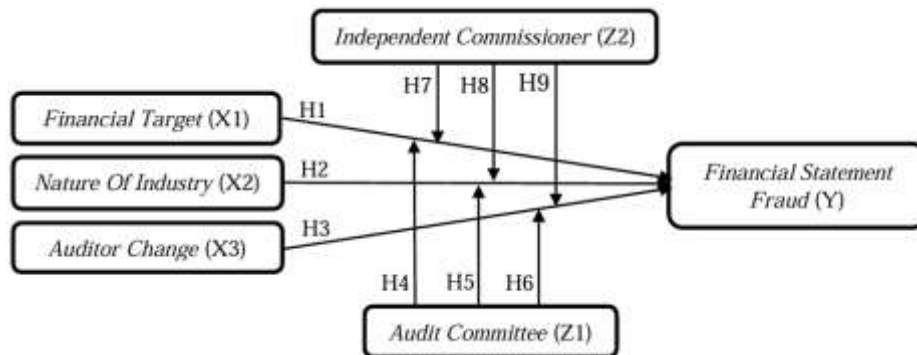


Figure 1. Framework of Thinking

The Effect of Pressure on FSF

Fraudulent behavior can be triggered by pressures faced by individuals (Fitriyah & Novita, 2021). The pressure faced can stem from multiple sources, including the manager’s own financial circumstances as well as internal conditions within the organization (Hashim et al., 2020). Financial targets frequently serve as the key indicators used to evaluate how effectively management is operating the company. Stakeholders view the company’s financial performance as satisfactory when the board’s established financial targets are met (Riyanti & Trisanti, 2021). Consequently, managers are expected to deliver their best performance to attain the financial objectives set by the company (Purnamasari et al., 2024). Such pressure may emerge from the obligation to meet specific targets within a set timeframe, potentially creating conditions that push management to take any necessary actions including engaging in manipulation or financial statement fraud to achieve the predetermined financial goals (Nareswari & Widhiyani, 2025). The greater the profit earned in the previous period, the more intense the pressure placed on management, as they are expected to generate even higher profits in the subsequent period. This corresponds to the pressure component

described in the fraud triangle theory, which explains that pressure is the primary motivator that can lead individuals or groups to engage in fraudulent behavior. Studies by Aditya, (2025), Hakim, Hamdani, et al. (2024), Herbenita et al. (2022), Nareswari & Widhiyani, (2025) indicate that financial targets exert a positive influence on FSF.

H1: Financial targets have a positive effect on FSF.

The Effect of Opportunity on FSF

The nature of industry is used as an indicator to measure opportunities. The nature of industry describes a circumstance in which the company functions within stable and supportive business conditions. Within financial statements, some account balances are established using company estimates, including allowances for doubtful accounts and obsolete inventory (Musfi & Soemantri, 2024). Management may determine the valuation and estimation of obsolete inventories in a way that allows the inventory account balance to align with their preferences (Sari et al., 2024). This provides companies with the chance to utilize these accounts to distort financial statements. This condition aligns with fraud triangle theory, which suggests that the presence of opportunity can increase the likelihood of FSF. This argument is reinforced by prior studies conducted by Arum et al. (2024), Hakim, Hamdani, et al. (2024), Saleh et al. (2021), which demonstrate that the nature of industry positively affects the occurrence of FSF.

H2: Nature of industry have a positive effect on FSF.

The Effect of Rationalization on FSF

The rationalization element may lead to fraudulent financial reporting, as perpetrators often justify their actions as acceptable or appropriate (Oktavia et al., 2022). This statement is in line with the fraud triangle theory that fraud can be driven by rationalization. Changes in auditors can also influence the rationalization process underlying fraudulent behavior. When an auditor change occurs, a transition period follows, which may provide management with an opportunity to justify fraudulent actions and attempt to remove audit trails (Khamainy et al., 2022). At the time a new auditor assumes their role, they require additional time to fully understand the company's circumstances, which may limit their ability to detect existing fraud, particularly given the time constraints of the audit process (Swastyayana et al., 2025). Findings from prior studies Abidin et al. (2025), Fitriainingsih & Bandi, (2024), Jamilah & Harto, (2025) demonstrate that auditor changes positively affects the occurrence of FSF.

H3: Auditor change have a positive effect on FSF.

The Influence of the Audit Committee in Moderating the Relationship between Financial Targets and FSF

Companies are expected to demonstrate strong performance in order to generate sustainable profits and meet predetermined financial objectives. According to the fraud triangle framework, pressure is a key factor that can motivate fraudulent behavior, particularly when management faces financial difficulties or demanding performance targets. In such situations, managers may be tempted to engage in unethical actions. The existence of an audit committee plays a key role in supervising and assessing management's performance (Hakim, Wisdom, et al., 2024). Through strong supervision by the audit committee, management has fewer opportunities to distort financial performance in order to present favorable results (Nikmah & Arjoen, 2023). Consequently, the audit committee serves as a moderating instrument that strengthens transparency and assists in reducing the risk of fraudulent activities (Mahayani & Sisdyani, 2025). From the standpoint of agency theory, the audit committee acts as a governance structure intended to minimize potential conflicts between management and shareholders. Research by Hakim, Wisdom, et al., (2024), Riyanti & Trisanti, (2021) shows that the audit committee can weaken the influence of financial targets on FSF.

H4: Audit committee weakens the relationship of financial targets to FSF.

The Influence of the Audit Committee in Moderating the Relationship between Nature of Industry and FSF



Industry characteristics may open avenues for FSF. Accounts that depend heavily on managerial judgment and estimation are particularly prone to manipulation, as they can be adjusted to present a more favorable picture of the company's financial condition (Sari et al., 2024). The establishment of an audit committee is expected to strengthen the reliability of financial reporting, especially in relation to subjective estimates. When firms strive to manage inventory levels while highlighting improved operational performance, an effective audit committee plays a key role in scrutinizing and overseeing financial disclosures to ensure that inventory information is presented in a fair and precise manner (Hasna & Novianti, 2024). By intensifying its supervisory function, evaluating the soundness of inventory estimates, and overseeing the reporting process, the audit committee can minimize the potential for misstatements and irregularities. From an agency theory perspective, the audit committee helps address conflicts of interest by providing independent supervision and reinforcing accountability. Empirical evidence from studies by Hakim, Wisdom, et al. (2024), Sari et al. (2022), supports this view, demonstrating that audit committees can weaken the influence of the nature of industry on FSF.

H5: Audit committee weakens the relationship of nature of industry to FSF.

The Influence of the Audit Committee in Moderating the Relationship between Change in Auditor and FSF

Firms engaged in fraudulent activities are more likely to switch auditors repeatedly, as management attempts to minimize the risk of FSF being uncovered (Sari et al., 2024). From the standpoint of agency theory, this situation illustrates a divergence of interests between managers acting as agents and shareholders serving as principals. Management, possessing more information, may act opportunistically to defend its interests, including by changing auditors to minimize the risk of fraud being discovered. An auditor changes within a company may be interpreted as an effort to conceal indications of fraud that could have been identified by the former auditor (Puteri & Reskino, 2023). The vulnerability to financial statement fraud resulting from auditor changes indicates a gap in oversight, particularly during the transition period for new auditors. When a new auditor begins an assignment, it takes time to understand the company's conditions and characteristics, increasing the potential for fraud. Therefore, an audit committee is needed to ensure transparent auditor rotation and maintain consistent oversight (Mahayani & Sisdyani, 2025). The audit committee is responsible for supervising the financial reporting process, evaluating the accounting policies applied, and overseeing the performance of the external auditor (Hasna & Novianti, 2024). The active involvement of the audit committee is anticipated to mitigate the risk of FSF. Findings from Hakim, Wisdom, et al. (2024) shows that audit committees can weaken the relationship between auditor changes and FSF.

H6: Audit committee weakens the relationship of change in auditor to FSF.

The Influence of Independent Commissioners in Moderating the Relationship between Financial Targets and FSF

Based on agency theory, the setting of high financial targets by a company creates pressure on management to demonstrate performance that meets the expectations of shareholders, as the principal. This pressure, in the presence of information asymmetry, can encourage management to commit opportunistic acts such as financial reporting fraud to make the target appear achievable (Retnoningtyas & Tarmizi, 2022). The inclusion of independent commissioners serves as a monitoring tool that reduces agency conflicts and limits management's room for manipulation, because independent commissioners are not affiliated with management and therefore can act objectively and impartially in carrying out their oversight function (Suwardi & Riyadi, 2024). Effective independent commissioners will improve the quality of oversight of accounting policies and financial reporting processes, so that pressure from financial targets does not easily turn into fraudulent actions. Prior studies, including those by Sari et al. (2020), Suwardi & Riyadi, (2024), indicate that independent commissioners can effectively reduce the impact of financial target pressure on the likelihood of FSF.

H7: Independent commissioners weaken the relationship between financial targets and FSF.

The Influence of Independent Commissioners in Moderating the Relationship between Nature of Industry and FSF

In financial reporting, certain accounts such as allowances for doubtful accounts and obsolete inventory are determined based on managerial estimates (Rifaldi & Indrabudiman, 2022). The use of estimates in valuing these accounts creates considerable opportunities for financial statement manipulation (Sari et al., 2024). This is consistent with agency theory, where the relationship between principal and agent contains potential conflict due to information asymmetry. Management has broader access to information regarding the company’s operational conditions, including the management of complex accounts such as inventory. In corporate governance, independent commissioners function as a monitoring mechanism designed to reduce agency conflicts. A higher proportion of independent commissioners improves the effectiveness of the board’s monitoring role, as a greater number of independent members strengthens demands for transparency and accountability in financial reporting. A previous study by Sudarmanto et al. (2025) showed that independent commissioners can weaken the nature of industry to FSF.

H8: Independent commissioners weaken the relationship between nature of industry and FSF.

The Influence of Independent Commissioners in Moderating the Relationship between Auditor Change and FSF

According to agency theory, interactions between principals and agents is vulnerable to conflicts of interest due to information asymmetry. Frequent auditor changes may indicate management’s attempts to reduce the effectiveness of external oversight, thereby increasing the likelihood of FSF (Sari et al., 2024). However, the presence of independent commissioners as part of the firm’s governance structure helps limit the likelihood of fraud, as they ensure that the audit process, whether conducted before or after an auditor switch remains effective, impartial, and compliant with established standards (Retnoningtyas & Tarmizi, 2022). Previous research by Sari et al. (2024) shows that independent commissioners can moderate the relationship between auditor switching and FSF. The more effective the oversight exercised by independent commissioners, the smaller the probability that accounting fraud will occur.

H9: Independent commissioners weaken the relationship between auditor change and FSF.

METHODS

This research employs a quantitative method to investigate the influence of the primary elements underlying the fraud triangle on FSF and to assess the moderating effects of the audit committee and independent commissioners. The analysis relies on secondary data obtained from the annual reports of state-owned enterprise (SOE) issued between 2021 and 2024. Information was obtained from the official websites of each company and other credible public sources. The population of this study consists of SOE observed from 2021 to 2024. A purposive sampling approach was applied to identify companies that satisfied the established selection criteria. Initially, the sample comprised 33 companies observed over four years, resulting in 132 observations. However, based on the outlier analysis conducted using SPSS, 17 observations were identified as outliers and excluded because they exceeded acceptable statistical limits. As a result, a total of 115 observations were retained for further analysis.

Table 1. Purposive Sampling

No	Purposive sampling criteria	Total
1	Number of non-bank SOE for the 2021-2024 period	128
2	Firms that did not disclose annual reports for the 2021–2024 timeframe	(47)
3	Companies that failed provide data related to research variable for the 2021-2024 period	(48)
Total company		33
Research Period (2021-2024)		4
Number of analysis units (×4)		132
Outlier Data		(17)

The total sample observations analyzed in this research 115
 Source: Secondary data processed (2026)

In this study, FSF serves as the dependent variable and is measured using the Beneish M-Score. Companies with an M-Score above -2.22 are considered to be committing fraud, whereas those with an M-Score of -2.22 or below are deemed non-fraudulent.

No	Ratio	Formula
1	Days Sales in Receivable	$DSRI = \frac{\text{Receivable } t / \text{Sales } t}{\text{Receivable } t - 1 / \text{Sales } t - 1}$
2	Gross Margin Index	$GMI = \frac{(\text{Sales } t - 1 - \text{COGS } t - 1) / \text{Sales } t - 1}{(\text{Sales } t - \text{COGS } t) / \text{Sales } t}$
3	Asset Quality Index	$AQI = \frac{[1 - (\text{Current Asset } t + \text{PPE } t / \text{Total Asset } t)]}{[1 - (\text{Current Asset } t - 1 + \text{PPE } t - 1 / \text{Total Asset } t - 1)]}$
4	Sales Growth Index	$SGI = \frac{\text{Sales } t}{\text{Sales } t - 1}$
5	Depreciation Index	$DEPI = \frac{(\text{Depreciation } t - 1 / \text{Depreciation } t - 1 + \text{PPE } t - 1)}{(\text{Depreciation } t / \text{Depreciation } t + \text{PPE } t)}$
6	Sales, General and Administrative Expenses Index	$SGAI = \frac{(\text{SGA Expenses } t / \text{Sales } t)}{(\text{SGA Expenses } t - 1 / \text{Sales } t - 1)}$
7	Leverage Index	$LEVI = \frac{(\text{Total liabilities } t / \text{Total assets } t)}{(\text{Total liabilities } t - 1 / \text{Total assets } t - 1)}$
8	Total Accrual to Total Asset	$TATA = \frac{(\text{Income from operating } t - \text{cash flow from using } t)}{\text{Total Asset } t}$

Figure 2. Dependent Variable Measurement
 Source : (Beneish, 1999)

The measurement of FSF employs the Beneish M-Score, derived from a particular calculation method.

$$\text{M-Score} = -4.84 + 0.92 \cdot \text{DSRI} + 0.528 \cdot \text{GMI} + 0.404 \cdot \text{AQI} + 0.892 \cdot \text{SGI} + 0.115 \cdot \text{DEPI} - 0.172 \cdot \text{SGA} + 4.679 \cdot \text{TATA} - 0.327 \cdot \text{LVGI}$$

Table 2. Operational Definition of Variables

Variable	Variable Measurement	Source
Financial Statement Fraud	Beneish M-Score	(Beneish, 1999)
Financial Target	$ROA = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$	(Arum et al., 2024)
Nature of Industry	$\text{Inventory} = \frac{\text{Inventory}(t)}{\text{Sales}(t)} - \frac{\text{Inventory}(t - 1)}{\text{Sales}(t - 1)}$	(Rahman et al., 2020)
Auditors Change	A dummy variable was used to measure auditor changes from 2021 to 2024, coded 1 for a change in auditor and 0 for no change	(Fathmaningrum & Anggarani, 2021)
Audit Committee	$KA = \sum \text{Audit committee members}$	(Safriiana & Ramadhan, 2025)
Independent Commissioner	$\text{Independent Commissioner} = \frac{\text{Number of independent commissioners}}{\text{Total number of commissioner}}$	(Suwardi & Riyadi, 2024)

Source: Result of secondary data processing in 2026

Statistical analyses were carried out in SPSS 25 with a 5% significance level. Data analysis commenced with descriptive statistical analysis to summarize the characteristics related to the

variables under study, as reflected by the minimum, maximum, mean, and standard deviation values. Afterwards, classical assumption tests were performed to assess the suitability of the regression model, including tests of normality, multicollinearity, heteroscedasticity, and autocorrelation. Hypotheses were tested through multiple linear regression analysis, which involved evaluating the coefficient of determination (Adjusted R²), the F-test to examine the simultaneous effect of the independent variables, and the T-test to assess their effects. In addition, moderating effects were analyzed using Moderated Regression Analysis (MRA) by constructing interaction terms between the fraud triangle variables and the audit committee as well as independent commissioners to determine whether these variables strengthen or weaken the relationship with FSF. The multiple linear regression model is specified as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_1*Z_1 + \beta_5X_2*Z_1 + \beta_6X_3*Z_1 + \beta_7X_1*Z_2 + \beta_8X_2*Z_2 + \beta_9X_3*Z_2 + \varepsilon$$

Information:

α = Constant value

β = Regression coefficient

Y = Financial statement fraud

X1 = Financial targets

X2 = Nature of industry

X3 = Auditor Changes

Z1 = Audit Committee

Z2 = Independent Commissioner

ε = Error term

RESULT

Descriptive Statistics

Table 3. Descriptive Statistics

Variable	N	Min	Max	Mean	SD
FT	115	-0,54	0,28	0,0328	0,08174
NOI	115	-0,26	0,17	-0,0013	0,05193
AC	115	0	2	0,2957	0,52938
FSF	115	-5,06	-1,53	-2,9187	0,53497
CA	115	2	8	3,6087	1,12153
IC	115	0,20	0,67	0,4526	0,12035

Source: SPSS 25 Output (2026)

The descriptive statistics show that the financial target (FT) variable, which serves as a proxy for pressure, has a minimum value of -0.54 and a maximum value of 0.28, with a mean of 0.0328 and a standard deviation (SD) of 0.08174. The relatively low average ROA suggests that the sampled firms generally exhibit modest profitability levels. Moreover, a SD that is higher than the mean suggests substantial differences in profitability among the firms. Nature of industry (NOI), which represent the opportunity dimension, exhibit a minimum value of -0.26 and a maximum value of 0.17, with a mean of -0.0013 and a SD of 0.05193. The mean value close to zero indicates relatively neutral industry conditions among the sampled firms, while the low standard deviation suggests limited variation or a fairly homogeneous distribution across companies. The auditor change (AC) variable records values ranging from 0.00 to 2.00, with a mean of 0.2957 and a SD of 0.52938. This average indicates that auditor changes were relatively infrequent during the observation period. The SD, which is higher than the mean, implies differences in auditor rotation practices among firms. Financial statement fraud (FSF), as the dependent variable, has a minimum value of -5.06 and a maximum value of -1.53, with a mean of -2.9187 and a SD of 0.53497. The negative mean value suggests that the overall risk of FSF the sampled firms tends to be low. Nevertheless, the range and dispersion of values indicate variations in fraud risk across companies. The audit committee (CA) variable, which functions as a moderating variable, ranges from 2.00 to 8.00, with an average of 3.6087 and a SD of 1.12153.

This mean value implies that, on average, firms have audit committees that comply with prevailing corporate governance requirements, while the SD reflects differences in committee size across companies. Lastly, the independent commissioner (IC) variable shows a minimum value of 0.20 and a maximum value of 0.67, with a mean of 0.4526 and a SD of 0.12035. This average proportion indicates that most firms meet regulatory requirements regarding independent commissioners. The relatively low standard deviation suggests a fairly uniform board composition among the sampled companies.

Classical Assumption Test

Table 4. Classical Assumption Test

Assumption	Criteria	Result	Information
Normality	One-Sample Kolmogorov-Smirnov (Sig. > 0,05)	Unstandardized Residual Sig. = 0,200	Qualified
Multicollinearity	Tolerance > 0,10; VIF < 10	FT Tolerance 0,931; VIF 1,074 NOI Tolerance 0,979; VIF 1,022 AC Tolerance 0,937; VIF 1,067 CA Tolerance 0,917; VIF 1,090 IC Tolerance 0,897; VIF 1,114	Qualified
Heteroxedasticity	Glejser with Sig. > 0,05	FT Sig. 0,587 NOI Sig. 1,000 AC Sig. 0,372 CA Sig. 0,509 IC Sig. 0,62	Qualified
Autocorrelation	dU < d < 4-dU	1,787 < 1,884 < 2,213	Qualified

Source: SPSS 25 Output (2026)

The outcomes of the classical assumption tests confirm that the regression model satisfies all essential assumptions. The residuals are normally distributed, as indicated by the normality test with a sig value of 0,200 (> 0,05). A tolerance value > 0.10 and a VIF value < 10 indicate the absence of multicollinearity among the independent variables. The Glejser test results show sig values > 0.05 for all variables, indicating that the model does not experience heteroscedasticity. Furthermore, the Durbin-Watson statistic (d) = 1.884, the upper limit value (dU) = 1.787, and (4 - dU) = 2.213. Since the condition dU < d < 4 - dU is met (1.787 < 1.884 < 2.213), it can be inferred that the regression model is free from autocorrelation.

Test Coefficient of Determination

The adjusted R² of 0,228 suggests that 22,8% of the variance in FSF is accounted for by financial targets, industry characteristics, and auditor turnover, while the audit committee and independent commissioners function as moderating variables in the model. About 77,2% of the outcome is driven by additional factors that were not examined in this study.

Simultaneous Test (F Test)

A sig level of 0.000 < 0.05, indicates that the independent variables jointly significantly affect FSF as the dependent variable.

Partial Test (t Test)

In this study, an independent variable is regarded as having a statistically significant partial effect on the dependent variable when its significance value is < 0.05 (Ghozali, 2021).

Table 5. Partial Test Results (t Test)
Coefficients^a

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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		B	Std. Error	Beta		
1	(Constant)	-3.389	.210		-16.154	.000
	ROA	3.249	.558	.496	5.819	.000
	SI	-.573	.857	-.056	-.668	.505
	PA	.050	.086	.050	.585	.560
	KA	.063	.041	.132	1.533	.128
	KI	.268	.386	.060	.694	.489

Source: SPSS 25 Output (2026)

As presented in Table 5, the results of the t-test reveal that the financial target variable yields a sig value of 0.000. These findings lead to the rejection of H01 and the acceptance of Ha1, indicating that the financial target variable positively influences FSF. Furthermore, the nature of industry variable shows a sig value of 0.505. Accordingly, H02 is accepted and Ha2 is rejected, indicating that the nature of industry variable has a negative effect on FSF. Lastly, the auditor change variable yields a sig value of 0.560. These results support the acceptance of H03 and the rejection of Ha3, which indicates that auditor changes have no effect on FSF.

Moderated Regression Analysis (MRA)

Table 6. Moderated Regression Analysis Result
Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	-3.389	.210		-16.154	.000
	FT	3.249	.558	.496	5.819	.000
	NOI	-.573	.857	-.056	-.668	.505
	AC	.050	.086	.050	.585	.560
	CA	.063	.041	.132	1.533	.128
	IC	.268	.386	.060	.694	.489
	FT*CA	.534	.600	.254	.889	.376
	NOI*CA	-.463	.817	-.164	-.567	.572
	AC*CA	-.010	.072	-.033	-.142	.888
	FT*IC	17.689	6.244	1.300	2.833	.006
	NOI*IC	10.879	8.150	.517	1.335	.185
	AC*IC	2.705	.870	1.295	3.108	.002

Source: SPSS 25 Output (2026)

Based on the moderation test results, the interaction between financial targets and the audit committee produced a sig value of 0.376 (> 0.05), denoting that the audit committee fails to moderate the effect of financial targets on FSF. Likewise, the interaction between nature of industry and the audit committee shows a sig value of 0.572 (> 0.05), suggesting that the audit committee is also incapable to moderate the relationship between nature of industry and FSF. Similar findings are observed in the interaction between changes auditor and the audit committee, which yields a significance value of 0.888 (> 0.05), implying that the audit committee does not function as a moderating variable in the relationship between auditor change and FSF.

In contrast, the combined effect of financial targets and independent commissioners reports a sig value of 0.006 (< 0.05), demonstrating that independent commissioners are able to moderate the influence of financial targets on FSF. However, the interaction between nature of industry and independent commissioners shows a sig value of 0.185 (> 0.05), reflecting that independent commissioners do not moderate the effect of nature of industry on FSF. Conversely, the interaction between auditor changes and independent commissioners yields a sig value of 0.002 (< 0.05), which

suggests that independent commissioners are able to moderate the relationship between auditor change and FSF.

The resulting multiple linear regression model is expressed as follows:

$$Y = -3,389 + 3,249FT - 0,573NOI + 0,050AC + 0,534(FT*CA) - 0,463(NOI*CA) - 0,010(AC*CA) + 17,689(FT*IC) + 10,879(NOI*IC) + 2,705(AC*IC) + \varepsilon$$

DISCUSSION

The Effect of Financial Targets on FSF

This study provides empirical evidence that financial targets have a significant positive effect on FSF, therefore H1 is supported. Financial targets in the present study are proxied by the ROA ratio, which reflects the proportion of profit generated from total assets and indicates how efficiently a company utilizes its assets to generate earnings, with higher values reflecting stronger profitability performance (Putra et al., 2025). In the context of Indonesian SOEs, the pressure to achieve financial targets has become more pronounced in the post COVID-19 period, as SOEs are expected to accelerate financial recovery, improve efficiency, and demonstrate stronger performance and accountability. These expectations are reinforced through restructuring initiatives, stricter performance contracts, and closer oversight from the Ministry of SOE, thereby intensifying managerial pressure to consistently meet predetermined targets. From the perspective of the fraud triangle, such conditions represent a form of pressure that can motivate managers to engage in unethical behavior when actual performance falls short of expectations. In practice, when companies set aggressive ROA targets but face declining revenues or rising operational costs, management may engage in earnings management practices, such as accelerating revenue recognition, delaying expense recognition, or adjusting accounting estimates to maintain the appearance of stable profitability. Although these actions may initially be perceived as opportunistic financial reporting, they can escalate into FSF when the gap between actual and targeted performance becomes increasingly difficult to conceal. In addition, management is required to comply with established performance benchmarks and regulatory expectations (Anisykurlillah et al., 2022), and failure to meet these targets may negatively affect managerial evaluation, incentives, and stakeholder confidence, further strengthening the motivation to manipulate financial reports. These findings are in line with prior studies conducted by Aditya, (2025), Hakim, Hamdani, et al., (2024), Herbenita et al., (2022), Nareswari & Widhiyani, (2025) which concluded that financial targets significantly contribute to the occurrence of FSF.

The Effect of Nature of Industry on FSF

These findings suggest that companies with more effective inventory management practices tend to exhibit lower levels of FSF, leading to the rejection of H2. In the context of SOE, this negative relationship may reflect not only internal operational efficiency but also the presence of stricter regulatory oversight and monitoring mechanisms imposed by the government. SOEs often operate in highly regulated sectors and are subject to multiple layers of supervision, including external audits, government inspections, and public accountability, which can constrain managerial discretion in reporting inventory. As a result, even though inventory is inherently a complex account involving estimation, valuation judgment, and exposure to risks such as obsolescence and physical damage, the opportunity to manipulate it becomes more limited. Furthermore, the proxy used for the nature of industry, namely changes in inventory relative to sales, may capture broader organizational conditions beyond fraud opportunity, such as improvements in operational efficiency, supply chain management, or the implementation of government-driven programs that stabilize production and distribution. These conditions can lead to more stable inventory turnover and tighter inventory control, thereby reducing the likelihood of manipulation practices such as inflating inventory values or delaying the recognition of impairments. From the perspective of the fraud triangle, while opportunity remains a key driver of fraud, the institutional environment and governance structure in SOE may significantly mitigate such opportunities, explaining the observed negative effect. These results are consistent with prior studies by Aditya, (2025), Fathmaningrum & Anggarani, (2021) and Hakim, Wisdom, et al., (2024), which similarly found that the nature of the industry negatively influences FSF.

The Effect of Change Auditor on FSF

The outcome of the H3 hypothesis testing shows that the hypothesis was not accepted. Based on the analysis, auditor changes do not influence the likelihood of FSF. This suggests that a company's decision to change its auditor does not necessarily imply an intention to engage in fraud. Auditor rotation is primarily driven by regulatory requirements and mandatory rotation rules, rather than managerial attempts to conceal fraud. Specifically Government Regulation of the Republic of Indonesia Number 20 of 2015 Article 11 Paragraph 1 stipulates that a Public Accountant is allowed to deliver audit services to a single entity for up to five consecutive fiscal years. This policy, enforced rigorously in SOE, encourages auditor changes for legal compliance rather than fraudulent motives. These findings are inconsistent with the fraud triangle theory, which posits that changes in oversight such as auditor changes may create opportunities for fraudulent behavior by weakening external monitoring. However, in the SOE environment, this theoretical mechanism is weakened by the specific characteristics of external auditors and strong state oversight. SOE typically engage reputable Public Accounting Firms (KAPs) alongside audits by the Financial and Development Supervisory Agency (BPKP), which provides an additional layer of government scrutiny. The dominant role of state oversight, including direct intervention by the Ministry of SOE and centralized audit coordination, further diminishes the potential for auditor changes to facilitate fraud rationalization or opportunity exploitation. Consequently, in this study, auditor change cannot be used as a reliable indicator to detect whether a company is committing fraud. These results are in line with previous studies conducted by Achmad et al., (2022), (2023), Hakim, Hamdani, et al., (2024) and Nareswari & Widhiyani, (2025), as they likewise found that auditor changes do not significantly affect FSF.

The Influence of the Audit Committee in Moderating the Relationship between Financial Targets and FSF

The results of H4 indicate that the audit committee does not moderate the relationship between financial targets and FSF. Although agency theory suggests that the audit committee serves as an effective monitoring mechanism to reduce opportunistic behavior arising from managerial pressure, this finding implies that such monitoring may not function optimally in practice. A more critical explanation lies in the measurement of the audit committee variable, which is likely based on structural aspects, such as the number of members, rather than substantive qualities including financial expertise, experience, or meeting intensity. As a result, the proxy used may not adequately reflect the committee's true effectiveness in overseeing financial reporting. The inability of the audit committee to mitigate the impact of financial targets suggests that pressure to achieve performance benchmarks may operate beyond the reach of formal governance mechanisms. Management may still engage in earnings manipulation despite the presence of an audit committee, particularly when oversight is not supported by strong competence and active engagement. This condition aligns with the notion of box-ticking governance, where governance structures exist primarily to fulfill regulatory requirements rather than to function effectively. As emphasized in the Indonesia Corporate Governance Manual (International Finance Corporation, 2014), the effectiveness of governance bodies depends not only on their existence but also on their quality, competence, and implementation. These results are consistent with prior studies by Hakim, Wisdom, et al., (2024), Nikmah & Arjoen, (2023), Noviani et al., (2024), Rohmatin et al., (2021), conclude that audit committees are not effective in moderating the effect of financial targets on FSF.

The Influence of the Audit Committee in Moderating the Relationship between Nature of Industry and FSF

The findings for H5 reveal that the audit committee does not moderate the relationship between the nature of industry and FSF, leading to the rejection of H5. This result suggests that the audit committee is not sufficiently effective in addressing fraud risks arising from industry-specific characteristics, particularly in firms with complex inventory accounts. Inventory involves subjective estimation, valuation methods, and exposure to risks such as obsolescence, which require a high level of accounting expertise to properly evaluate. A critical perspective on this finding

highlights that the audit committee proxy may not capture essential dimensions such as members' accounting competence, experience in dealing with complex financial accounts, or the frequency and effectiveness of meetings. Without these qualities, the audit committee may be unable to challenge managerial judgment in areas prone to manipulation. Consequently, although the audit committee is expected to enhance monitoring and reduce information asymmetry, its actual role may be limited when it operates only at a formal level. This condition further reflects the phenomenon of box-ticking governance, where governance mechanisms are implemented symbolically rather than substantively. As noted by Financial Services Authority, the presence of governance structures alone does not guarantee effective oversight. Therefore, the inability of the audit committee to moderate this relationship may stem from the gap between formal compliance and actual governance quality. These results align with previous research conducted by Hakim, Wisdom, et al., (2024), Hasna & Novianti, (2024), Safriliana & Ramadhan, (2025), indicating that the audit committee does not effectively moderate the relationship between the nature of the industry and FSF.

The Influence of the Audit Committee in Moderating the Relationship between Auditor Change and FSF

The hypothesis testing results indicate that H6 is not supported, suggesting that the audit committee fails to mitigate the effect of auditor changes on indications of FSF in SOE. From the perspective of agency theory, the audit committee is expected to function as an effective monitoring mechanism representing the principal's interests to curb opportunistic managerial behavior, particularly in ensuring that auditor changes are conducted transparently and not strategically used to weaken fraud detection. However, the findings are inconsistent with these expectations and instead align with prior studies Hakim, Wisdom, et al., (2024), Luhri et al., (2021), Nikmah & Arjoen, (2023) and Rifaldi & Indrabudiman, (2022), which also report the absence of a moderating role of audit committees. One possible explanation lies in the measurement of the audit committee variable, which may rely primarily on quantitative aspects such as the number of members, thereby failing to capture more substantive dimensions of effectiveness, including members' financial expertise, competence, meeting frequency, and attendance. As a result, the proxy used may not adequately reflect the actual quality of oversight. Furthermore, this finding can be interpreted within the context of box-ticking governance in Indonesian SOEs, where governance structures such as audit committees are established mainly to comply with regulatory requirements rather than to ensure substantive monitoring effectiveness, as also emphasized in the Indonesian corporate governance framework. In addition, Government Regulation of the Republic of Indonesia Number 20 of 2015 Article 11 Paragraph (1) mandates auditor rotation after a maximum of five consecutive years, regardless of the presence or effectiveness of the audit committee, indicating that auditor changes may be driven more by regulatory compliance than by governance considerations. Consequently, when auditor changes occur, especially if followed by lower audit quality, the risk remains that fraudulent financial reporting may not be effectively detected, even in the presence of formally established audit committees.

The Influence of Independent Commissioners in Moderating the Relationship between Financial Targets and FSF

The results of the H7 test rejected the hypothesis. Empirical findings indicate that independent commissioners affect the association between financial targets and FSF; however, the interaction coefficient is positive. Financial targets represent a form of pressure stemming from the principal's demands on management (as agents) to achieve specific performance levels. This pressure may incentivize management to engage in FSF to preserve their reputation and position. As the primary shareholder of SOE, the government imposed aggressive financial targets to restore profitability and dividend payouts amid lingering pandemic impacts, such as supply chain disruptions and revenue declines. Under these conditions, independent commissioners may not function optimally as a monitoring mechanism. Instead, they may coexist with heightened performance pressures, thereby reinforcing managerial incentives to engage in FSF. This suggests that formal governance structures alone are insufficient to mitigate fraud risk when external

pressures are substantial. Their effectiveness is highly contingent on the quality, true independence, and active involvement of independent commissioners in oversight functions particularly in high pressure environments like post-COVID-19 Indonesian SOE. Similar findings were reported in earlier studies by Sari et al., (2020) and Suwardi & Riyadi, (2024), indicating that independent commissioners tend to amplify the impact of financial targets on FSF.

The Influence of Independent Commissioners in Moderating the Relationship between Nature of Industry and FSF

The results of the study show that independent commissioners are unable to moderate the effect of nature of industry, proxied by inventory, on FSF, leading to the rejection of H8. In the context of Indonesian SOE in the post-COVID-19 period, this finding becomes particularly relevant. Following the pandemic, SOE faced significant pressure to stabilize operations, restore supply chains, and improve financial performance amid heightened uncertainty and government expectations. These conditions increased managerial discretion over inventory related decisions, such as valuation, estimation, and provisioning, which are inherently technical and prone to judgment. While agency theory posits that independent commissioners serve as an effective monitoring mechanism, their role in SOE is largely confined to strategic oversight rather than involvement in operational or technical accounting processes. Consequently, they have limited capacity to detect or prevent manipulation embedded in inventory accounting practices. Moreover, in many Indonesian SOE, the selection of independent commissioners is often driven more by the need to fulfill OJK regulatory requirements mandating that at least 30% of the board be composed of independent members than by a substantive effort to enhance governance quality, which in turn diminishes the effectiveness of their monitoring role in practice. Under post-pandemic recovery pressures, this limitation becomes more pronounced, as management may exploit operational complexity to engage in FSF while remaining beyond the direct scrutiny of the board. Therefore, the presence of independent commissioners does not significantly constrain the opportunity arising from industry-specific characteristics, particularly inventory, in influencing FSF. This finding is consistent with prior research (Sari et al., 2024), which suggests that governance mechanisms may not effectively mitigate opportunity-driven fraud in complex operational environments.

The Influence of Independent Commissioners in Moderating the Relationship between Auditor Change and FSF

The analysis shows that independent commissioners strengthen the relationship between auditor changes and FSF, thus rejecting H9. This indicates that their presence does not necessarily mitigate the adverse effects of auditor changes and may even reinforce them. In Indonesian SOEs during the post-COVID-19 period, this is particularly relevant as firms faced strong pressure to accelerate recovery and meet government targets, increasing FSF risk.

Auditor changes may be used strategically to reduce scrutiny from previous auditors who are more familiar with the firm's reporting practices. Although firms often switch to larger audit firms to improve audit quality, such changes do not guarantee fraud detection, especially during the transition period when new auditors are still adapting, creating opportunities for opportunistic reporting.

In this context, independent commissioners may not function effectively due to institutional constraints, such as appointments driven by compliance and political considerations rather than true independence and competence. These limitations are exacerbated during the post-pandemic recovery phase, characterized by restructuring and increased information asymmetry, which hinders effective oversight.

As a result, independent commissioners may struggle to critically evaluate auditor changes, and their presence does not necessarily reduce fraud risk but may instead strengthen its relationship with FSF. This suggests that effectiveness depends on oversight quality, competence, and genuine independence. These findings are consistent with (Sari et al., 2024), which also reports that independent commissioners strengthen the relationship between auditor change and FSF.

CONCLUSIONS



This study finds that only certain elements of the fraud triangle influence FSF in state-owned enterprises (SOEs) during 2021–2024. Pressure, proxied by financial targets, has a positive effect on FSF. In contrast, nature of industry shows a negative and insignificant effect, indicating that inventory characteristics do not inherently create opportunities for FSF. Rationalization, measured by auditor changes, is also insignificant.

Moderation analysis reveals that the audit committee does not moderate the relationship between fraud triangle elements and FSF. Independent commissioners fail to moderate the effect of nature of industry but strengthen the relationships between financial targets, auditor changes, and FSF. These results suggest that formal governance structures alone are insufficient without strong supervisory quality and independence.

This study is limited by proxy selection and a restricted sample of non-bank SOEs within a short observation period. Nevertheless, it provides practical implications for regulators and governance bodies to enhance competence, independence, and active oversight, particularly in monitoring financial targets and auditor changes, as well as strengthening internal controls. Future studies should adopt more diverse proxies to better capture fraud triangle elements and governance quality.

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