Jurnal Magister Akuntansi Trisakti ISSN 2339-0859 (Online)
Vol.12 No. 2 September 2025 : hal 125-146
Doi: http://dx.doi.org/10.25105/jmat.v12i2.23103

THE EFFECT OF HEPTAGON FRAUD ON FINANCIAL STATEMENT FRAUD WITH MODERATION OF INSTITUTIONAL OWNERSHIP

Ahmad Ali Akbar Aslamy[1*]
Hexana Sri Lastanti[2]
[1,2]Faculty of Economics and Busines, Universitas Trisakti
Jakarta, Indonesia
*Correspondence: ahmadaliakbaraslamy@gmail.com

Abstract

This study aims to examine and analyze the effects of pressure, opportunity, rationalization, capability, ego, ignorance, and greed on financial statement fraud, with institutional ownership as a moderating variable. The research population comprises 112 manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period from 2021 to 2023. The sample comprises 42 companies from the basic materials sector, resulting in 126 observations, selected using purposive sampling. Data were obtained from financial statements and annual reports. The analysis employed descriptive statistics, Moderated Regression Analysis (MRA), and t-tests using secondary data. The results indicate that pressure, rationalization, capability, ego, and greed have a positive impact on financial statement fraud, whereas opportunity and ignorance do not. Furthermore, institutional ownership weakens the influence of pressure, rationalization, capability, ego, and greed on financial statement fraud, but does not moderate the effect of opportunity and ignorance. These findings underscore the crucial role of institutional ownership in mitigating the risk of fraudulent reporting. Strengthening institutional oversight through active shareholder participation, promoting long-term investment, and enforcing stronger corporate governance can effectively curb fraudulent practices. This study contributes to the literature on financial fraud by expanding the Fraud Diamond framework with additional behavioral factors. It also offers practical insights for regulators, policymakers, and investors to enhance transparency and accountability, particularly in high-risk.

Keywords: Company Size; Fraud Heptagon Model; Financial Statement Fraud; Institutional Ownership.

Abstrak

Penelitian ini bertujuan untuk mengkaji dan menganalisis pengaruh tekanan, kesempatan, rasionalisasi, kemampuan, ego, ketidaktahuan, dan keserakahan terhadap kecurangan laporan keuangan, dengan kepemilikan institusional sebagai variabel moderator. Populasi penelitian terdiri dari 112 perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia (BEI) untuk periode 2021 hingga 2023. Sampel terdiri dari 42 *perusahaan dari sektor bahan dasar, menghasilkan 126 observasi, yang dipilih menggunakan sampling purposif. Data diperoleh dari laporan keuangan dan laporan tahunan. Analisis menggunakan statistik deskriptif, Analisis Regresi Moderat (ARM), dan uji t menggunakan data sekunder. Hasil menunjukkan bahwa tekanan, rasionalisasi, kemampuan, ego, dan keserakahan memiliki dampak positif terhadap kecurangan laporan keuangan, sedangkan kesempatan dan ketidaktahuan tidak. Selain itu, kepemilikan institusional melemahkan pengaruh tekanan, rasionalisasi, kemampuan, ego, dan keserakahan terhadap kecurangan laporan keuangan, tetapi tidak memoderasi efek kesempatan dan ketidaktahuan. Temuan ini menyoroti peran krusial kepemilikan institusional dalam mengurangi risiko pelaporan kecurangan. Memperkuat pengawasan institusional melalui partisipasi aktif pemegang saham, mendorong investasi jangka panjang, dan menerapkan tata kelola korporat yang lebih kuat dapat secara efektif menekan praktik penipuan. Studi ini berkontribusi pada literatur tentang penipuan keuangan dengan memperluas kerangka kerja Fraud Diamond dengan faktor-faktor perilaku tambahan. Studi ini juga memberikan wawasan praktis bagi regulator, pembuat kebijakan, dan investor untuk meningkatkan transparansi dan akuntabilitas, terutama di sektor berisiko tinggi.*

Kata kunci: *Ukuran Perusahaan; Model Heptagon Penipuan; Penipuan Laporan Keuangan; Kepemilikan Institusional.*

JEL Classification : M41, M42

Submission date: 2025-07-29 *Accepted date: 2025-09-25*

INTRODUCTION

In the modern digital era, every nation requires a strong economic foundation, one of which is reflected in the growth of large corporations across various industrial sectors. Financial statements serve as a vital instrument that represents a company's performance and financial condition within a specific period (Larum et al., 2021). They are documents that present data to illustrate the performance of an entity. According to PSAK 1 (IAI, 2021), financial statements must be prepared in accordance with applicable accounting standards to provide users with accurate, relevant, and reliable information. Nevertheless, financial statements are often misused as a tool for manipulation to serve particular interests, ultimately harming both companies and the economy.

The phenomenon of financial statement fraud has emerged as a critical issue at both global and national levels. Globally, falsified financial reports are considered one of the most damaging forms of fraud in terms of financial losses (ACFE, 2024–2025). In Indonesia, corruption and fraudulent financial reporting are the most prevalent forms of fraud (Wikipedia, 2025; Pertamina Corruption Case). The ACFE defines fraudulent financial reporting as deliberate actions taken by management orstaff to falsify financial information with the intent to deceive stakeholders. This global trend, widely recognized as financial statement fraud, occurs when government organizations or corporate leaders manipulate financial reports to conceal actual economic conditions and serve their own interests (Sholikatun & Makaryanawati, 2023).

In Indonesia, the Indonesia Fraud Survey (ACFE Indonesia Chapter, 2019) highlights that corruption (64.4%), asset misappropriation (28.9%), and financial statement fraud (6.7%) remain the most prevalent types of fraud. Several cases, such as profit manipulation by PT KAI, revenue inflation by PT Garuda Indonesia, and fictitious project reporting by PT Waskita Karya, underscore how weak internal controls and poor governance structures are major drivers of fraudulent practices.

To better understand the underlying factors of fraud, several theories have been developed. The foundational model, the Fraud Triangle (Cressey, 1953), emphasizes three core elements: pressure, opportunity, and rationalization. This was later expanded into the Fraud Diamond (Wolfe & Hermanson, 2004), which introduced capability as an additional factor, followed by the Fraud Pentagon, which incorporated arrogance. The most recent development is the Fraud Heptagon (Mohamed & Yusof, 2016), which adds greed and ignorance to the framework. This model provides a more comprehensive approach to explaining fraudulent financial reporting behavior. The seven elements of the Fraud Heptagon include pressure, opportunity, rationalization, capability, ego, ignorance, and greed.

Pressure, for instance, can be represented by financial stability, which, according to several studies, has a positive influence on financial statement fraud, although some findings suggest otherwise. Skousen et al. (2009) demonstrate that financial stability has a significant impact on fraudulent financial reporting. Conversely, Summers and Sweeney (2019) argue that financial pressure does not necessarily lead directly to fraudulent practices. This indicates a research gap in the form of inconsistent findings regarding financial stability as an indicator of pressure. Thus, further research is needed to explore how different types of pressures—external, personal, or organizational—specifically influence financial statement fraud.

Opportunity is influenced by the nature of the industry, yet existing research has produced mixed results regarding its impact on fraudulent financial reporting. Beasley (1996) argues that the complexity and characteristics of certain industries create opportunities for management to conceal financial fraud. Conversely, Person (2009) finds that industry characteristics are not always statistically significant in detecting fraudulent reporting. This highlights a research gap, specifically the lack of consensus on how industry type influences financial statement fraud and which specific industry factors render firms more vulnerable.

Rationalization is often measured through the total accrual ratio; however, its effect on fraudulent reporting remains contested. Amatullah and Herawaty (2020), for instance, show that accrual ratios are not always significant as indicators of financial statement fraud. This creates a gap, as there is still no quantitative approach that can adequately capture the psychological dimension of rationalization, such as personal justification for committing fraud. Capability is frequently assessed through director turnover, which several studies suggest has implications for misleading reporting. Beasley (1996) demonstrates that board structure and the presence of independent directors influence the likelihood of financial fraud, while Dechow, Ge, and Schrand (2010) show that management changes—particularly those involving CEOs or CFOs—can increase the risk of fraudulent reporting. Nonetheless, research explicitly examining director turnover and fraud in Indonesia remains limited, as do longitudinal approaches that assess the long-term consequences of executive changes on financial reporting quality.

Ego is typically measured by the frequency of CEO photographs, yet its influence has also yielded divergent findings. Chatterjee and Hambrick (2007) reveal that narcissistic CEOs are more likely to engage in extreme decision-making, including financial manipulation. However, other studies fail to establish a significant relationship between CEO narcissism and fraudulent financial reporting, leaving a gap in the literature. Ignorance, reflecting a lack of understanding about the consequences of fraud, can be mitigated through director training and professional experience. Agoglia et al. (2011) show that auditors' and managers' knowledge of accounting standards influence the likelihood of misstatements in financial reporting. Nonetheless, there remains a scarcity of direct measurements of "ignorance" as a variable.

Greed is often cited as a primary driver of fraud, although it has not always been consistently proven to be a determinant of fraudulent reporting. Schrand and Zechman (2012) demonstrate that managers facing high market expectations and large incentives are more prone to commit fraud. Yet, quantifying greed as a variable remains challenging. As a moderating factor, institutional ownership strengthens external oversight and suppresses the likelihood of fraud. Such ownership promotes good corporate governance and compliance with legal and ethical standards.

This study aims to re-examine the influence of Fraud Heptagon elements on financial reporting conditions, addressing existing research gaps in prior studies. Research on the Heptagon of Fraud in Indonesia remains scarce. While Dorminey et al. (2012) extended the model to the international level, its empirical application in emerging markets, including Indonesia, has not been widely conducted. Thus, there is a gap in the form of the absence of comprehensive empirical studies integrating all elements of the Fraud Heptagon with the Beneish M-Score as the outcome indicator. The Beneish M-Score is particularly relevant for detecting fraudulent reporting among companies listed on the Indonesia Stock Exchange (IDX), given that public companies are especially vulnerable to fraud, particularly earnings inflation practices.

The Fraud Heptagon itself is an extension of earlier theories on fraud determinants, beginning with the Fraud Triangle introduced by Cressey in 1953. Over time, this theory evolved into the Fraud Heptagon, offering a more comprehensive framework for understanding and addressing fraudulent behavior. Handoko (2021) emphasizes that many scholars now agree on the need to update existing fraud theories, especially in the context of developing countries such as Indonesia. Yusof (2016) further analyzed variables from earlier fraud models, while Handoko and Angelica (2023), through a study in Malaysia, demonstrated that greed and ignorance significantly influence fraudulent financial reporting (FFR). Consequently, these two factors were incorporated into the theoretical framework, giving rise to the Fraud Heptagon. The remaining factors from earlier theories—pressure, opportunity, rationalization, capability, and arrogance—are still maintained (Handoko et al., 2022).

LITERATURE REVIEW AND HYPOTHESES

Agency Theory

Agency theory explains the contractual relationship between the principal (shareholders) and the agent (management), in which the principal delegates authority to the agent to manage the company and make decisions, provided that the principal's interests are fulfilled (Jensen & Meckling, 1976). According to Eisenhardt (2018), agency conflicts arise due to two main issues: (1) the difficulty in ensuring whether the agent has acted in accordance with the principal's interests, and (2) the divergence of goals between the two parties. This condition creates information asymmetry, which in turn increases the risk of financial statement fraud.

GONE Theory

Bologna (1993) introduced the GONE theory (Greed, Opportunity, Need, Expose), which outlines the factors driving corruption. Greed reflects dissatisfaction and excessive desire, opportunity refers to situations that facilitate fraud, need represents unmet or excessive demands, and exposure relates to the weakness of sanctions imposed on perpetrators. This theory suggests that fraudulent behavior emerges from a combination of internal motivations and external weaknesses in oversight mechanisms

Financial Statements

Financial statements are the outcome of the accounting process, presenting information on a company's performance and financial position to its stakeholders (Warren et al., 2005; Weygandt et al., 2018). Hery (2017) emphasizes that financial statements serve as the primary medium for external decision-makers in evaluating a company's condition. In accordance with PSAK, financial statements must be presented accurately, reliably, and relevantly, while remaining free from manipulation and misrepresentation.

Financial Statement Fraud

Financial statement fraud is defined as the intentional act of falsifying financial information with the aim of deceiving report users (Arens, 2018). One of the most widely used detection tools is the Beneish M-Score (Beneish, 1999), which assesses the likelihood of earnings manipulation. Companies with an M-Score below -2.22 are considered financially unhealthy (Mamamoba, 2023). Independent auditors play a critical role in evaluating the integrity of financial reports and identifying fraudulent practices.

The formula for the M-Score is as follows: M-Score = -4.840 + 0.920DSRI + 0.528GMI + 0.404AQI + 0.892SGI + 0.115DEPI – 0.172SGAI + 4.679TATA - 0.327LVGI

Fraud Heptagon Theory

Initially, Cressey (1953) introduced the Fraud Triangle, which consists of pressure, opportunity, and rationalization. Wolfe & Hermanson (2004) later added capability, resulting in the Fraud Diamond. Crowe Horwath (2011) expanded the model into the Fraud Pentagon by including arrogance. Vousinas (2017) further developed the Fraud Hexagon by adding collusion, while Yusof (2016) complemented the model with ignorance and greed, resulting in the Fraud Heptagon. This theory emphasizes that fraud is driven not only by structural factors but also by psychological and managerial behavioral dimensions. The following are the elements of the Fraud Heptagon Theory:

Pressure

Pressure refers to internal drives that can lead an individual to commit fraud. These pressures may be either financial or non-financial in nature (Nugraheni & Triatmoko, 2017). In this study, pressure is proxied by financial stability as suggested by SAS No. 99 (2002). Financial stability can be measured using the ratio of changes in total assets over two years (ACHANGE), calculated as:

$$ACHANGE = \frac{Total\ Assets_t - Total\ Assets_{t-1}}{Total\ Assets_{t-1}}$$

Opportunity

Opportunity is a condition that allows an individual to engage in fraudulent behavior, whether such opportunities arise intentionally or unintentionally (Yusuf, 2023). According to SAS No. 99 (2002), opportunity can be proxied by ineffective monitoring. This is measured using the ratio of independent commissioners to the total number of commissioners (BDOUT), calculated as:

$$BDOUT = \frac{Number\ of\ Independent\ Commissioners}{Total\ Board\ of\ Commissioners}$$

Rationalization

Rationalization is an individual's ability to justify fraudulent actions, even when such actions harm others and violate legal or ethical standards (Yusuf, 2023). SAS No. 99 (2002) suggests that rationalization can be proxied by the total accrual ratio (TATA). Skousen et al. (2009) note that this ratio is suitable for measuring rationalization, calculated as:

$$TATA = \frac{Net\ Income\ from\ Continuing\ Operations - Cash\ Flow\ from\ Operations}{Total\ Assets}$$

Capability

Capability refers to a perpetrator's ability to exploit weaknesses in internal control systems and avoid detection (Yusuf, 2023). This element can be measured by changes in directors. According to Imtikhani & Sukirman (2021), this is measured using a dummy variable (DCHANGE), coded as 1 if the company experienced a change in directors, and 0 if no change occurred.

Arrogance

Arrogance represents excessive pride or greed, particularly among individuals in high-ranking positions within a company (Yusuf, 2023). This element can be proxied by the frequency of the CEO's photographs displayed in the company's annual report.

Ignorance

Ignorance refers to a lack of understanding or awareness of the risks and consequences of fraudulent acts, which may influence one's decision to commit fraud (Satata, 2024). Mohamed & Yusof (2016) propose that ignorance can be measured as:

$$Ignorance = \frac{Number\ of\ Corporate\ Governance\ Courses}{Total\ Number\ of\ Board\ of\ Directors}$$

Greed

Greed is characterized by an excessive desire to acquire wealth, ownership, or power (Satata, 2024). According to Mohamed & Yusof (2016), greed can be measured using the ratio of executive directors' remuneration to company profits, expressed as:

$$Greed = \frac{Actual\ Amount\ of\ Executive\ Directors'\ Remuneration}{Profits}$$

Moderating Variable

The moderating variable in this study is Institutional Ownership. Institutional ownership is defined as the proportion of company shares held by institutions such as banks, insurance companies, pension funds, investment firms, or other organizations (Anisykurlillah et al., 2022). A higher level of institutional ownership is assumed to enhance the effectiveness of external monitoring mechanisms on management, thereby potentially reducing the likelihood of financial statement fraud. Institutional ownership is measured using the following formula (Chandra, 2024):

$$OSHIP = \frac{\text{Number of shares owned by institutions}}{\text{Total outstanding shares}}$$

Control Variable

The control variable used in this study is Firm Size. Firm size reflects the scale of a company, which may influence the likelihood of financial statement fraud. Measurement is conducted using the natural logarithm of total assets (Mamamoba, 2023):

$$Size = \ln(\text{Total Assets})$$

Conceptual Framework

Based on the theoretical discussion and findings from previous studies, this research develops a conceptual framework to analyze the influence of the Fraud Heptagon on financial statement fraud, with institutional ownership serving as the moderating variable and firm size as the control variable. The conceptual framework is illustrated in Figure 1.

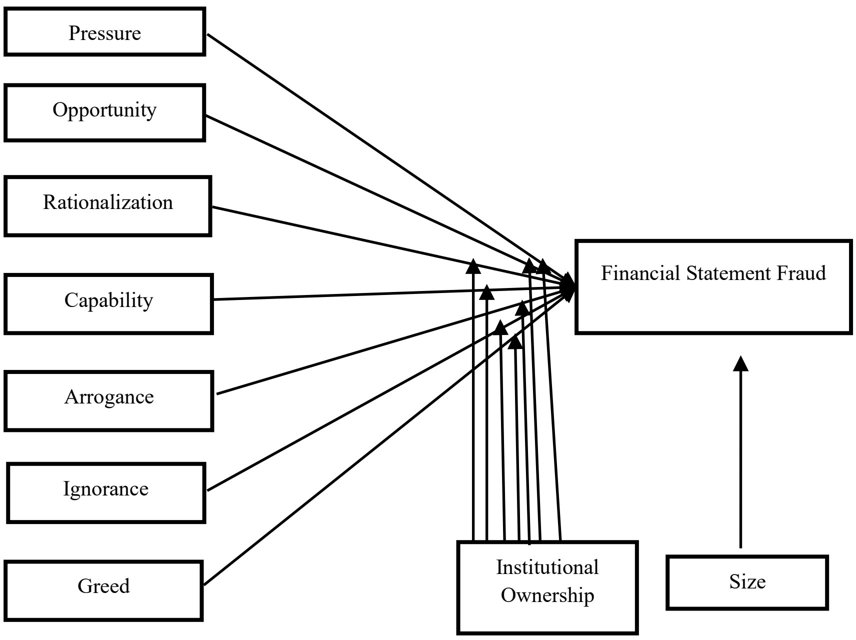

Figure 1
Conceptual Framework

Hypothesis Development

The hypotheses of this study are as follows:

The Effect of Pressure on Financial Statement Fraud

Pressure refers to financial and non-financial incentives that drive individuals to commit fraud (Nugraheni & Triatmoko, 2017). High pressure without adequate internal controls increases the risk of financial statement manipulation. Pressure can influence financial statement fraud because it creates an internal motivation or drive to commit fraudulent actions, particularly in the absence of a strong internal control or supervisory system. Anisykurlillah et al. (2022) demonstrated that institutional ownership may affect the relationship between pressure and financial statement fraud. Based on the above discussion, the research hypothesis is formulated as follows:

H1: Pressure has a positive effect on Financial Statement Fraud.

The Effect of Opportunity on Financial Statement Fraud

Opportunity arises when supervision is weak, thereby allowing management to commit fraud (Yusuf, 2023). Opportunities can influence financial statement fraud because they create conditions that enable individuals to engage in fraudulent activities, especially when there is insufficient oversight or deterrent consequences. Puteri (2023) found that opportunity significantly affects the likelihood of financial statement fraud. Based on the above discussion, the research hypothesis is formulated as follows:

H2: Opportunity has a positive effect on Financial Statement Fraud.

The Effect of Rationalization on Financial Statement Fraud

Rationalization is the ability of individuals to justify fraudulent behavior that may harm others and violate the law (Yusuf, 2023). Rationalization can influence financial statement fraud because it provides perpetrators with a justification that makes them feel justified in doing something inherently wrong, thereby lowering moral barriers and facilitating fraud. Medlar and Umar (2023) confirmed that rationalization has a positive and significant effect on detecting financial statement fraud. Based on the above discussion, the research hypothesis is formulated as follows:

H3: Rationalization has a positive effect on Financial Statement Fraud.

The Effect of Capability on Financial Statement Fraud

Capability refers to the ability of fraud perpetrators to bypass supervision and internal control mechanisms within a company (Yusuf, 2023). Capability can influence financial statement fraud because fraudulent acts can only be carried out by individuals who not only have motivation and opportunity but also possess the capacity and authority to exploit system loopholes, evade detection, and protect themselves from punishment. This argument is supported by Medlar and Umar (2023) and Nugroho and Diyanty (2022), who reported that the fraud index increases with the number of directors in a company. Based on the above discussion, the research hypothesis is formulated as follows:

H4: Capability has a positive effect on Financial Statement Fraud.

The Effect of Ego on Financial Statement Fraud

Arrogance refers to excessive pride and greed, particularly among individuals occupying high positions within a company (Yusuf, 2023). Ego can influence financial statement fraud because individuals with an inflated sense of self tend to perceive themselves as above the rules, making them more likely to take deviant actions for personal gain without considering the impact on other stakeholders. Medlar and Umar (2023) and Uciati and Mukhibad (2019) found that the more frequently a CEO's photograph is displayed, the higher the CEO's level of arrogance. Based on the above discussion, the research hypothesis is formulated as follows:

H5: Ego has a positive effect on Financial Statement Fraud.

The Effect of Ignorance on Financial Statement Fraud

Ignorance refers to a lack of understanding or awareness of the risks and consequences of fraudulent actions that may influence one's decision to commit fraud (Satata, 2024). Ignorance can influence financial statement fraud because without sufficient knowledge of risks and consequences, individuals are more likely to act recklessly, undermine honesty, and fail to recognize the implications of fraudulent behavior. Knowledge and information may prevent individuals from falling into ignorance and neglecting facts, which can lead to dishonest behavior (Mohamed & Yusof B, 2016). Based on the above discussion, the research hypothesis is formulated as follows:

H6: Ignorance has a positive effect on Financial Statement Fraud.

The Effect of Greed on Financial Statement Fraud

Greed refers to an excessive desire for wealth, possessions, and power (Satata, 2024). Greed can influence financial statement fraud because individuals driven by greed are often motivated by external incentives, such as compensation, while disregarding the long-term consequences of fraudulent acts. Mohamed and Yusof B (2016) found that financial statement fraud is positively correlated with compensation. Based on the above discussion, the research hypothesis is formulated as follows:

H7: Greed has a positive effect on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Pressure on Financial Statement Fraud

Pressure is an internal drive that may lead individuals to commit fraudulent acts, whether financial or non-financial (Nugraheni & Triatmoko, 2017). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). As pressure increases, the likelihood of financial statement fraud also increases. However, when institutional ownership is high, this relationship weakens because institutional monitoring forces management to reconsider fraudulent intentions. Anisykurlillah et al. (2022) found that institutional ownership moderates the effect of pressure on financial statement fraud. Based on the above discussion, the research hypothesis is formulated as follows

H8: Institutional Ownership moderates the effect of Pressure on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Opportunity on Financial Statement Fraud

Opportunity refers to a condition that enables individuals to take action in certain situations, whether deliberately or inadvertently (Yusuf, 2023). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). When opportunities arise, individuals are more likely to commit financial statement fraud. Conversely, companies with higher institutional ownership tend to have stronger external oversight, which reduces the negative impact of such opportunities. Fitriani and Fidiana (2024) confirmed that higher institutional ownership leads to stricter fraud detection within corporate governance. Based on the above discussion, the research hypothesis is formulated as follows:

H9: Institutional Ownership moderates the effect of Opportunity on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Rationalization on Financial Statement Fraud

Rationalization refers to an individual's ability to justify fraudulent behavior that harms others and violates the law (Yusuf, 2023). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). When rationalization is high, the likelihood of financial statement fraud increases. However, high institutional ownership may mitigate this influence through monitoring and expectations of professionalism from institutional investors. Anisykurlillah et al. (2022) argued that institutional ownership addresses such issues by contributing to external monitoring. Based on the above discussion, the research hypothesis is formulated as follows:

H10: Institutional Ownership moderates the effect of Rationalization on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Capability on Financial Statement Fraud

Capability refers to a fraud perpetrator's ability to bypass supervision and internal control within a company (Yusuf, 2023). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). Individuals with high capability are more likely to commit undetected fraud. Conversely, high institutional ownership strengthens management selection, monitoring, and fraud detection systems, thereby reducing the impact of capability on fraud. Institutional ownership has a long-term interest in ensuring that new directors possess integrity and competence to detect fraud (Devina et al., 2024). Based on the above discussion, the research hypothesis is formulated as follows:

H11: Institutional Ownership moderates the effect of Capability on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Ego on Financial Statement Fraud

Arrogance refers to excessive pride and greed, particularly among individuals occupying high positions within a company (Yusuf, 2023). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). High institutional ownership can weaken the influence of ego on fraudulent behavior, since external and independent oversight creates strong pressure on management. Companies with high institutional ownership play a crucial role in ensuring compliance with applicable rules and norms, as well as in preventing violations from going unpunished

(Devina et al., 2024). Based on the above discussion, the research hypothesis is formulated as follows:

H12: Institutional Ownership moderates the effect of Ego on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Ignorance on Financial Statement Fraud

Ignorance refers to a lack of understanding or awareness of the risks and consequences of fraudulent acts that may influence decisions related to fraud (Satata, 2024). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). High institutional ownership may mitigate the influence of ignorance on financial statement fraud, as institutions enhance awareness and accountability. Organizations with high institutional ownership are more capable of fostering cultures that uphold high ethical standards while promoting education and training for employees (Devina et al., 2024). Based on the above discussion, the research hypothesis is formulated as follows:

H13: Institutional Ownership moderates the effect of Ignorance on Financial Statement Fraud.

Institutional Ownership Moderates the Effect of Greed on Financial Statement Fraud

Greed can be associated with the desire for wealth, ownership, and power (Satata, 2024). Institutional ownership refers to the proportion of shares held by institutions within a company (Suparlan, 2019). Greed may drive management to commit fraud for personal gain. Conversely, in companies with high institutional ownership, stricter oversight weakens this relationship and reduces the risk of fraudulent acts. Institutional ownership thus plays a critical role in strengthening monitoring mechanisms (Devina et al., 2024).

H14: Institutional Ownership moderates the effect of Greed on Financial Statement Fraud.

RESEARCH METHODS

This study employs a quantitative research design with a correlational approach, aiming to examine the effect of the independent variable, the Fraud Heptagon, on financial statement fraud, with institutional ownership as a moderating variable. The population consists of companies in the Basic Materials sector listed on the Indonesia Stock Exchange (IDX). The sample was selected using a purposive sampling method. The type of data used in this study is secondary data, covering the research period from 2021 to 2023. The final sample comprises 42 companies, spanning a three-year observation period, resulting in a total of 126 observations.

Data testing in this study involves model testing, the coefficient of determination (R^2), and the F-test. Furthermore, data analysis methods include descriptive analysis, regression analysis using Moderated Regression Analysis (MRA), and partial testing (t-test), all conducted with the assistance of EViews 12.

Table 1
Operational Definition of Variables

Variable	Measurement	Measurement Scale
Dependent Variable		
Financial Statement Fraud	M-Score = -4.840 + 0.920DSRI + 0.528GMI + 0.404AQI + 0.892SGI + 0.115DEPI - 0.172SGAI + 4.679TATA - 0.327LVGI Source: Mamamoba (2023)	Ratio
Variable Independent		
Pressure	The financial stability variable can be measured by the ratio of asset changes over two years. (ACHANGE), using the following formula: $ACHANGE = (Total\ Asett - Total\ Asett{-}1)/Total\ Asett{-}1$ Source: Mamamoba (2023)	Ratio
Opportunity	Ineffective monitoring can be measured by the ratio of independent commissioners to the total number of commissioners (BDOUT) using the following formula: $BDOUT =$ Number of independent commissioners/Total number of commissioners Source: Mamamoba (2023)	Rasio

Variable	Measurement	Measurement Scale
Rationalization	The Total Accrual Ratio can be used to measure variable rationalization. The formula for the total accrual ratio is: $TATA$ = (Net income from continuing operations - cash from operations) / Total assets Source: Mamamoba (2023)	Ratio
Capability	Change of Directors can be measured by: variable dummy (DCHANGE), which is code 1 if the company changed its directors during the research year, and code 2 if the company did not change its directors. Source: Mamamoba (2023)	Nominal
Arrogance	The Ego variable can be proxied by the variable "frequent number of CEO's pictures," measured by: a variable that sums up the number of each CEO's photo posted in the company's annual report. Source: Mamamoba (2023)	Nominal

Variable	Measurement	Measurement Scale
Ignorance	Ignorance can be measured using the following formula: Ignorance = (Number of corporate governance courses) / (Total number of board members) Source: Satata (2024*)*	Ratio
Greed	Greed can be measured using the following formula: Greed = (Actual amounts of executive directors' remuneration) / Profit Source: Satata (2024)	Ratio
Moderating Variable		
Institutional Ownership	*Institutional Ownership can be measured using the following formula: OSHIP = Shares owned by other institutions/Shares outstanding Source: Chandra (2024)*	Ratio
Control Variables		
Size	Company size is measured using the following formula: Size = log asset. Source: Mamamoba (2023)	Nominal

This study utilizes variables with both ratio and nominal scales, as all the analyzed data are quantitative, expressed in numerical form and percentages. The type of data used is secondary data obtained from the annual reports of basic materials companies listed on the Indonesia Stock Exchange (IDX) during the period 2021–2023. The research data sources came from the IDX official website and the official websites of each company. Sample selection was carried out using purposive sampling based on certain criteria, namely: (1) basic materials sector companies listed on the IDX; (2) companies that remained listed during the 2021–2023 period; (3)

companies that had been listed on the IDX before January 1, 2021; and (4) basic materials sector companies that posted positive profits during the 2021–2023 period.

Table 2
Sampling Criteria

No.	Criteria	Amount
1	Basic Material sector companies listed on the Indonesia Stock Exchange	112
2	Basic Material sector companies that were not listed consecutively during 2021-2023	23
3	Basic Material sector companies with negative profits during 2021-2023	39
4	Companies that do not have complete data during 2021-2023	9
5	Companies eligible for sampling	42
6	Research Period	3
7	Number of research sample observations	126

Based on the sample criteria used by the researcher, it can be determined that the sample consists of 42 (fifty-two) companies. The time series data in this study covers the period from 2021 to 2023. Therefore, the amount of time series data is 3 (three) years. Thus, the amount of data to be tested is 126 data points.

Data Testing

1. Model Testing

The study uses three types of panel regression models:

- Common Effect Model (CEM)
- Fixed Effects Model (FEM)
- Random Effects Model (REM)

Model selection was carried out through several tests:

- Chow Test: the results show a p-value <0.05 → FEM is more appropriate.
- Hausman Test: p-value >0.05 → REM is more appropriate.
- Breusch-Pagan Lagrange Multiplier (LM) Test: not carried out because the Chow Test results show the FEM model.

2. Determination Coefficient (R2)

Adjusted R^2 is 96.9028%, meaning that the independent variables (Pressure, Opportunity, Rationalization, Ability, Ego), moderating variables (Institutional Ownership), and control variables (Company Size) are able to explain 96.90% of the variation in Financial Statement Fraud.

Data Analysis

1) Descriptive Analysis
   Aims to describe the sample/population data as it is.

2) Regression Analysis with MRA
   Used to determine whether Institutional Ownership moderates the influence of fraud variables (Pressure, Opportunity, Rationalization, Capability, Ego, Ignorance, Greed) on Financial Statement Fraud.

The moderation hypothesis is accepted if the interaction between the moderating variable and the independent variable shows a significant effect.

3) Partial Testing (t-test)

Used to test the effect of each independent variable on the dependent variable.

• Sig < 0.05 → variable has a significant effect.

• Sig > 0.05 → variable does not have a significant effect.

RESULTS AND DISCUSSION

Descriptive Statistical Data Analysis

This study analyzes financial statement fraud (FSF) as the dependent variable. The independent variables consist of seven elements of the Fraud Heptagon, namely pressure (ACHANGE), opportunity (BDOUT), rationalization (TATA), capability (DCHANGE), ego (CEOPICT), ignorance (IGNORE), and greed (GREED). In addition, institutional ownership (OSHIP) is used as a moderating variable, while company size (SIZE) serves as a control variable. Descriptive statistics indicate that the FSF variable, measured by M-Score, has a minimum value of -162.94, a maximum value of 43.79, an average of -2.74, and a standard deviation of 15.46. Meanwhile, the pressure variable (ACHANGE) has a mean of 0.10 and a standard deviation of 0.26, with a minimum value of -0.47 and a maximum of 2.31. The opportunity variable (BDOUT) shows an average proportion of independent commissioners of 41.22%, while rationalization (TATA), measured by total accruals, has an average of 0.037. The dummy variables, such as competence, ignorance, and greed, have average proportions of 38.10%, 28.57%, and 33.33%, respectively. The average value of the frequency of CEO photos (CEOPICT) is 2.55 with a standard deviation of 1.94.

Regression Analysis with MRA

The results of the Moderated Regression Analysis (MRA) are as follows:

FFS = -4.77 + 36.17*ACHANGE - 9.01*BDOUT + 53.01*TATA + 1.02*DCHANGE + 0.67*CEOPICT- 0.41*IGNORE + 1.21*GREED + 2.93*OSHIP - 38.97* ACHANGE_OSHIP + 8.59* BDOUT_OSHIP+ - 48.25* TATA_OSHIP - 0.96* DCHANGE_OSHIP - 0.75* CEOPICT_OSHIP + 0.61* IGNORE_OSHIP- 1.60* GREED_OSHIP + [CX=R]

The regression results indicate that, individually, the variables **pressure (ACHANGE), rationalization (TATA), capability (DCHANGE), ego (CEOPICT),** and **greed (GREED)** have a positive effect on financial statement fraud (FSF). This implies that increases in these variables lead to higher levels of financial statement fraud. Conversely, **opportunity (BDOUT)** exhibits a negative effect, while **ignorance (IGNORE)** does not consistently show a significant effect.

Institutional ownership (OSHIP) also demonstrates a direct positive effect on FSF. However, in its role as a moderating variable, OSHIP weakens the effects of pressure, rationalization, capability, ego, and greed on financial statement fraud. In contrast, its interaction with opportunity and ignorance tends to increase the likelihood of fraud, although in certain cases, the effect is not statistically significant.

Hypothesis Testing (t-test)

Based on partial t-tests, the findings are as follows:

- Pressure, rationalization, capability, ego, and greed have a significant positive effect on financial statement fraud.
- Opportunity and ignorance do not have a significant effect on financial statement fraud.
- Institutional ownership, as a stand-alone variable, has a direct positive effect on fraud.
- The interaction of institutional ownership with pressure, rationalization, ego, and greed shows a significant negative effect, indicating a moderating role that weakens the influence of these variables on fraud.
- Conversely, the interaction between institutional ownership and opportunity demonstrates a significant positive effect, while its interaction with ignorance and capability is not statistically significant.

Discussion of Research Findings

The Influence of Fraud Heptagon Factors on Financial Statement Fraud

The results of this study reveal that five elements of the Fraud Heptagon pressure, rationalization, capability, ego, and greed have a positive and significant effect on financial statement fraud. These findings support agency theory, which posits that both external and internal pressures drive management to manipulate financial reporting in order to maintain the company’s reputation. This result is consistent with Salehi & Khalifeh (2022), who identified financial pressure and managerial ego as key determinants of accounting manipulation, and with Omar et al. (2023), who emphasized the role of rationalization and capability in reinforcing earnings management practices.

In contrast, opportunity and ignorance were not found to have a significant effect. This suggests that the mere existence of opportunities does not necessarily encourage fraudulent behavior, particularly when effective oversight mechanisms are in place. This finding aligns with Nkundabanyanga et al. (2022), who reported that board monitoring often becomes ineffective when an organizational culture tolerates risk-taking. Similarly, Zhang & Xu (2023) highlighted that individual ignorance alone is insufficient to drive fraud due to technical limitations in understanding accounting systems.

The Moderating Role of Institutional Ownership in the Relationship Between Fraud Heptagon Factors and Financial Statement Fraud

The moderating role of institutional ownership produced mixed results. Overall, institutional ownership was found to weaken the effects of pressure, rationalization, capability, ego, and greed on financial statement fraud. This indicates that the presence of institutional investors contributes to managerial discipline, thereby reducing incentives to engage in fraudulent practices.

However, the interaction between institutional ownership and opportunity as well as ignorance, did not show significant effects. This may be attributed to the limited active involvement of institutional investors in daily monitoring, which reduces their ability to effectively eliminate managerial discretion and prevent fraud. These findings align with prior studies suggesting that institutional ownership serves a dual role: it can act as an effective monitoring mechanism, but it may also be passive, depending on the organizational context.

CONCLUSIONS, LIMITATIONS AND SUGGESTIONS

Conclusion

Based on the findings of this study, which examined the effects of pressure, opportunity, rationalization, capability, ego, ignorance, and greed on financial statement fraud, it can be concluded that the variables pressure, rationalization, capability, ego, and greed have a proven positive effect on financial statement fraud. In contrast, the variables opportunity and ignorance were not found to have a positive effect on financial statement fraud. Furthermore, institutional ownership was found to weaken the effects of pressure, rationalization, capability, and ego on financial statement fraud; however, it did not succeed in mitigating the effect of opportunity or in strengthening the effect of ignorance. Additionally, institutional ownership has been shown to reduce the influence of greed on financial statement fraud. These findings emphasize that internal factors such as pressure, rationalization, capability, ego, and greed play a significant role in increasing the likelihood of financial statement fraud. In contrast, governance mechanisms, including institutional ownership, function as a controlling factor that can reduce the risk of such fraudulent practices.

Limitations

This study has limitations that should be considered when interpreting its findings. First, the research sample was limited to companies in the basic materials sector listed on the Indonesia Stock Exchange, thereby restricting the generalizability of the results to other sectors. Second, the observation period covered only three years, from 2021 to 2023, which may not fully capture long-term conditions. Third, the measurement of the variables' capability and ignorance employed a nominal scale of 1 and 0, which may introduce subjectivity in assessment and create potential discrepancies in scoring across researchers. Despite these limitations, the study still makes a valuable contribution to understanding the factors that influence financial statement fraud, while also highlighting the need for further development in future research.

Suggestion

Based on the research limitations outlined above, several suggestions can be considered for future studies. First, subsequent researchers are encouraged to broaden the scope of the research, not only focusing on the basic materials sector but also including other sectors listed on the Indonesia Stock Exchange, so that the findings become more generalizable and representative. Second, it is recommended to employ a longer research period such as five to ten years to obtain more stable and in-depth data, thereby providing a more accurate depiction of financial statement fraud trends. Third, to minimize subjectivity in measuring the variables of capability and ignorance, future studies are advised to use quantitative indicators or a triangulation approach, such as financial statement analysis, management’s professional track records, or audit data, to ensure more objective and measurable results. Accordingly, future research is expected to provide a more comprehensive contribution to the development of literature on financial statement fraud.

REFERENCES

Achmad, T., Ghozali, I., & Pamungkas, I. D. (2022). Hexagon fraud: Detection of fraudulent financial reporting in state-owned enterprises Indonesia. *Economies, 10*(1). https://doi.org/10.3390/economies10010013

Achmad, T., Ghozali, I., Rahardian, M., Helmina, A., Hapsari, D. I., & Pamungkas, I. D. (2017). Detecting fraudulent financial reporting using the fraud hexagon model: Evidence from the banking sector in Indonesia. https://doi.org/10.3390/economies

Adib, N., Rahma, M., & Widya, A. (2024). Financial reporting in the perception of heptagon fraud theory. Jurnal Ilmiah Manajemen Kesatuan, 12(6), 2559–2568. https://doi.org/10.37641/jimkes.v12i6.2984

Afrizal, R., Ekonomi, F., & Bisnis, D. (n.d.). Pengaruh fraud heptagon terhadap timbulnya fraudulent financial statement dengan earnings management sebagai variabel intervening. Fakultas Ekonomi dan Bisnis.

Alfarago, D., Syukur, M., & Mabrur, A. (n.d.). The likelihood of fraud from the fraud hexagon perspective: Evidence from Indonesia. *ABAC Journal, 43*(1). https://search.library.smu.edu.sg/permalink/65SMU_INST/1ba19kd/cdi_proquest_journals_280234 0897

Aulia, N., Suherman, & Lusiono, E. F. (2025). Pengaruh hexagon fraud terhadap kecurangan laporan keuangan (Studi pada perusahaan konstruksi di Indonesia 2018 s.d. 2022). Jurnal Review Pendidikan dan Pengajaran, 8(1), 1505–1515. https://doi.org/10.31004/jrpp.v8i1.42009

Azizah, S., & Reskino, R. (2023). Pendeteksian fraudulent financial statement: Pengujian fraud heptagon theory. *Jurnal Akuntansi dan Governance, 4*(1), 17. https://doi.org/10.24853/jago.4.1.17-37

Bader, A. A., Abu Hajar, Y. A., Weshah, S. R. S., & Almasri, B. K. (2024). Predicting risk of and motives behind fraud in financial statements of Jordanian industrial firms using hexagon theory. *Journal of Risk and Financial Management, 17*(3). https://doi.org/10.3390/jrfm17030120

Deka, I. (n.d.). Pengaruh fraud heptagon terhadap kecurangan laporan keuangan dimoderasi sistem pengendalian internal.

Djami, R. A. (n.d.). Factors that influence fraud heptagon theory on financial statements fraud: Empirical study on the mining sector listed on the Indonesia Stock Exchange for the period 2018– 2022. https://doi.org/10.59141/jrssem.v3i08.559

Fransisca, V., & Suhartono, S. (2025). Pendeteksian fraudulent financial reporting di lingkungan BUMN: Perspektif fraud hexagon theory. Jurnal Akuntansi, 14(1), 1–17. https://doi.org/10.46806/ja.v14i1.1254.

Indriaty, L., & Thomas, G. N. (2023). Analysis of hexagon fraud model, the S.C.C.O.R.E model influencing fraudulent financial reporting on state-owned companies of Indonesia. *Economics - Innovative and Economics Research Journal, 11*, 73–92. https://doi.org/10.2478/eoik-2023-0060

Kecurangan, A., Keuangan, L., Pendekatan, D., Fraud, V., Nurhidayah, W., & Kusumawati, E. (n.d.). Hexagon model. Innovative: Journal of Social Science Research, 3, 8789–8804.

Lee, C. W., Fu, M. W., Wang, C. C., & Azis, M. I. (2025). Evaluating machine learning algorithms for financial fraud detection: Insights from Indonesia. Mathematics, 13(4). https://doi.org/10.3390/math13040600

Maharani, F., & Napisah, N. (2024). Pengaruh elemen fraud hexagon terhadap kecurangan laporan keuangan. Owner, 8(4), 4850–4864. https://doi.org/10.33395/owner.v8i4.2482

Naldo, R. R., & Widuri, R. (2023). Fraudulent financial reporting and fraud hexagon: Evidence from infrastructure companies in ASEAN. Economic Affairs (New Delhi), 68(3), 1455–1468. https://doi.org/10.46852/0424-2513.3.2023.14

Oktavia, S., Bahari, A., & Kartika, R. (2022). Pengaruh elemen fraud hexagon theory terhadap fraud laporan keuangan. Jurnal Akuntansi dan Ekonomika, 12(2), 275–284. https://doi.org/10.37859/jae.v12i2.4207

Oktaviany, F., & Reskino. (2023). Financial statement fraud: Pengujian fraud hexagon dengan moderasi audit committee. Jurnal Bisnis dan Akuntansi, 25(1). http://jurnaltsm.id/index.php/JBA

Pamungkas, I. D., & Irwandi, S. A. (2024). Detecting fraudulent financial reporting: Heptagon fraud model. The Indonesian Accounting Review, 14(2). https://doi.org/10.14414/tiar.v14i2.4523

Pamungkas, I. D., & Sukma, S. F. (2022). Menguji potensi kecurangan pelaporan keuangan dengan menggunakan teori fraud hexagon. Jurnal Akuntansi dan Bisnis Krisnadwipayana, 9(3), 864. https://doi.org/10.35137/jabk.v9i3.764

Pendeteksian fraudulent financial statement melalui teori fraud heptagon dalam persepsi auditor (Studi pada auditor di wilayah DKI Jakarta). (n.d.).

Sagala, S. G., & Siagian, V. (2021). Pengaruh fraud hexagon model terhadap fraudulent laporan keuangan pada perusahaan sub sektor makanan dan minuman yang terdaftar di BEI tahun 2016– 2019. Jurnal Akuntansi, 13(2), 245–249. https://doi.org/10.28932/jam.v13i2.3956

Sari, M. P., Mahardika, E., Suryandari, D., & Raharja, S. (2022). The audit committee as moderating the effect of hexagon's fraud on fraudulent financial statements in mining companies listed on the Indonesia Stock Exchange. Cogent Business and Management, 9(1). https://doi.org/10.1080/23311975.2022.2150118

Satata, D. P. I., Pamungkas, I. D., Sumaryati, A., & Minarso, B. (2024). The role of institutional ownership in detecting fraudulent financial reporting: Fraud heptagon model analysis. *MAKSIMUM, 14*(1), 37. https://doi.org/10.26714/mki.14.1.2024.37-47

Shabrina Isalati, N., Azis, M. T., & Hadiwibowo, I. (n.d.). Eteksi faktor yang mempengaruhi kecurangan laporan keuangan dengan fraud hexagon. https://doi.org/10.26460/ad.v7i1

Sukmadilaga, C., Winarningsih, S., Handayani, T., Herianti, E., & Ghani, E. K. (2022). Fraudulent financial reporting in ministerial and governmental institutions in Indonesia: An analysis using hexagon theory. *Economies, 10*(4). https://doi.org/10.3390/economies10040086

Teguh, G., Muttiwijaya, P., Made, I., Adiputra, P., Gede, L., Dewi, K., Fery, G., & Tapa, S. (n.d.). Analisis perspektif model fraud hexagon dalam mendeteksi indikasi financial statement fraud (Studi pada perusahaan perbankan yang terdaftar di Bursa Efek Indonesia 2015–2020). https://ejournal.unhi.ac.id/index.php/widyaakuntansi/article/view/7138/3145

Yusuf Mamamoba, P., & Suhartono, S. (n.d.). Moderasi internal control dalam mendeteksi fraud pendekatan hexagon. https://nasional.kontan.co.id/