



Detecting Financial Statement Fraud Using Hexagon Theory: The Role of Effective Monitoring

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Abstrak

Tujuan Utama - Penelitian ini menyelidiki penerapan elemen teori hexagon dalam mendeteksi kecurangan laporan keuangan dan pengawasan yang efektif sebagai variabel moderasi.

Metode - Penelitian ini difokuskan pada perusahaan di sektor *Consumer Cyclical*s yang terdaftar di Bursa Efek Indonesia (BEI) dari tahun 2019 hingga 2023. Analisis regresi logistik dilakukan dengan menggunakan EViews 13.

Temuan Utama - Hasil penelitian menunjukkan bahwa target keuangan dan dualitas dewan komisaris mendorong terjadinya kecurangan laporan keuangan. Variabel sifat industri, pergantian auditor, pergantian direktur dan arogansi direktur tidak berpengaruh signifikan. Komite audit berperan sebagai mekanisme pengawasan yang dapat melemahkan pengaruh target keuangan, arogansi direktur, dan dualitas dewan komisaris terhadap kecurangan laporan keuangan, tetapi tidak efektif dalam menekan dampak faktor lain.

Implikasi Temuan dan Kebijakan - Temuan ini menyoroti pentingnya penguatan tata kelola dengan pengawasan ketat terhadap target keuangan dan dualitas dewan komisaris. Penelitian ini dapat digunakan perusahaan dan investor untuk mengidentifikasi kecurangan menggunakan elemen teori hexagon.

Kebaruan Penelitian - Penelitian ini memperbarui studi sebelumnya dengan menambahkan efektivitas pengawasan sebagai variabel moderasi dalam hubungan antara elemen teori hexagon dan kecurangan laporan keuangan.

Kata Kunci: Pengawasan Efektif, Kecurangan Laporan Keuangan, Fraud Hexagon, Deteksi Kecurangan, *Consumer Cyclical*s.

Abstract

Main Purpose - This study investigates the application of the fraud hexagon theory in detecting financial statement fraud and examines effective monitoring as a moderating variable.

Method - This research focuses on companies in the *Consumer Cyclical*s sector listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. Logistic regression analysis was conducted using EViews 13.

Main Findings - The results show that financial targets and board duality drive financial statement fraud. Industry characteristics, auditor turnover, director turnover, and director arrogance do not have a significant effect. The audit committee serves as a monitoring mechanism that can weaken the influence of financial targets, director arrogance, and board duality on financial statement fraud but is ineffective in mitigating the impact of other factors.

Theory and Practical Implications - These findings highlight the importance of strengthening corporate governance with strict oversight of financial targets and board duality. This research can be used by companies and investors to identify fraud using elements of Hexagon Theory.

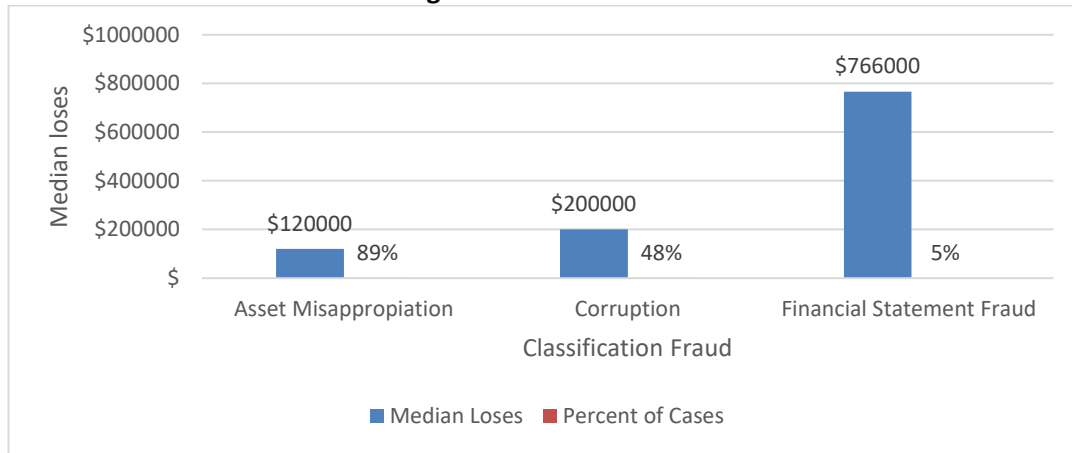
Novelty - This study advances previous research by introducing effective monitoring as a moderating variable in the relationship between fraud hexagon elements and financial statement fraud.

Keywords: Effective Monitoring, Financial Statement Fraud, Fraud Hexagon, Fraud Detection, *Consumer Cyclical*s.

INTRODUCTION

Financial statement fraud is one of the critical issues that can undermine the integrity and trust in financial markets. This fraud not only harms investors, but also affects economic stability and corporate reputation. Based on PwC's Global Economic Crime and Fraud Survey (2022), nearly 70% of companies globally are implicated in financial statement fraud, whether carried out by internal actors, external actors, or through their collaboration.

Figure 1. Classification Fraud



Source: ACFE, 2024

The Association of Certified Fraud Examiners (2024) reports that financial statement fraud results in the highest average losses, amounting to \$766,000 per case, despite only accounting for 5% of fraud incidents. This loss is significantly greater compared to other types of fraud, such as asset misappropriation with an average loss of \$120,000 and corruption at \$200,000 (ACFE, 2024). Therefore, financial statement fraud is recognized as the type of fraud that causes the most significant financial losses, despite its lower occurrence rate. Although its percentage is smaller compared to other types of fraud, financial statement fraud has far reaching consequences. If not prevented, it can undermine the integrity of financial markets, erode investor confidence, and hinder economic growth.

The number of fraud cases in the Asia-Pacific region has reached 183 cases, accounting for 11% of the total fraud cases worldwide, with an average loss of \$200,000 (ACFE, 2024). In Indonesia alone, there were 25 fraud cases, which, compared to other countries, is relatively high and ranks third. Financial statement fraud in Indonesia shows that 67.4% of cases resulted in losses of less than Rp 10 million, while 5% of cases caused losses exceeding Rp 10 billion. Overall, the accumulated losses due to financial statement fraud in Indonesia are estimated to reach Rp 242 billion (ACFE Indonesia, 2019). The high incidence of financial statement fraud in Indonesia and the Asia-Pacific region negatively impacts the economy, businesses, and investor confidence (Nindito, 2018). With Indonesia ranking third in fraud cases, the risk of losing investor trust increases, potentially reducing investment and slowing economic growth. Companies involved face reputational damage, declining stock prices, and legal sanctions. Weak oversight and compliance further exacerbate the situation, threatening financial market stability and the broader business sector (Wang & Lin, 2023). Therefore, understanding the factors influencing financial statement fraud is crucial to minimizing its occurrence.

The financial statement fraud case in Indonesia involving PT Trikomsel Oke Tbk in 2015 stemmed from a Rp 1.4 trillion bond default due to poor financial management and alleged financial statement fraud. The company's lack of transparency in debt reporting misled investors and creditors, resulting in significant losses and negatively impacting the Indonesian capital market (Nabhani, 2015). The fraud was committed through understating liabilities, inflating assets, and weak corporate

governance, ultimately leading to the company's default. The Consumer Cyclical sector was chosen as the focus of this study due to its high risk of financial statement fraud, primarily driven by economic volatility and competitive pressures. As a sector heavily dependent on macroeconomic conditions, companies in industries such as retail, automotive, tourism, and entertainment often experience unstable revenue streams. The pressure to remain attractive to investors and maintain market position may lead companies to manipulate financial statements, either by inflating revenues or concealing liabilities. If left unchecked, financial statement fraud in this sector can have widespread consequences, including mass layoffs, supply chain disruptions, and declining consumer confidence.

Financial statement fraud is one of the critical issues that continues to be a concern in the business and accounting world. These fraudulent practices can undermine public trust, influence investor decisions and destabilize financial markets. Various theories have been developed to identify the factors that encourage individuals or groups to manipulate financial statements. One of the early theories that became the basis was the fraud triangle by [Cressey \(1953\)](#), which explains that pressure, opportunity and rationalization are the main elements that cause fraud. Over time, this theory has undergone further development. [Wolfe and Hermanson \(2004\)](#) introduced the element of capability or ability in the fraud diamond, which emphasizes that in addition to pressure, opportunity, and rationalization, the ability of individuals to exploit system weaknesses is also an important factor.

[Crowe \(2011\)](#) expanded this theory by adding arrogance as an additional element in the fraud pentagon. Arrogance reflects an excessive attitude on the part of management who feel immune to the law or supervision, thus increasing the risk of fraud. The development of this theory reached a new point with the introduction of the fraud hexagon by [Voussinas \(2019\)](#), which included collusion as the sixth element. Collusion indicates that there is cooperation between internal and external parties in an effort to commit fraud, making detection difficult. Research by [Sukmadilaga et al. \(2022\)](#) reinforces this view by emphasizing that collusion is an important element in detecting fraudulent financial reporting practices. Collusion involves not only individuals within the company but also external parties such as auditors, suppliers, or other business partners who work together to cover up manipulation.

Previous studies on the factors contributing to financial statement fraud based on hexagon theory have been conducted, yet they still yield inconsistent findings. The studies by [Achmad et al. \(2022\)](#); [Omukaga \(2021\)](#) suggest that financial pressure positively influences financial statement fraud. In contrast, the research of [Demetriades & Owusu-Agyei \(2022\)](#); [Gunarianto et al. \(2022\)](#) indicates that financial pressure has a negative impact on financial statement fraud. The nature of the industry has been found to have a positive impact in studies by [Khamainy et al. \(2022\)](#); [Omukaga \(2021\)](#); [Sari et al. \(2022\)](#). However, research by [Nizarudin et al. \(2023\)](#); [Citra et al. \(2022\)](#); [Situngkir & Triyanto \(2020\)](#) suggests that the nature of the industry does not influence financial statement fraud.

Research by [\(Nizarudin et al., 2023\)](#); [\(Nurcahyono et al., 2021\)](#) indicates that audit changes positively impact financial statement fraud. In contrast, studies by [\(Achmad et al., 2022\)](#); [Alfarago et al., 2023](#); [Citra et al., 2022](#); [Sari et al., 2022](#)) report that audit changes do not affect financial statement fraud. Director changes are found to have a negative effect on financial statement fraud, according to [UtamiUtami & Pusparini, \(2019\)](#). while [Achmad et al. \(2022\)](#); [Omukaga \(2021\)](#); [Citra et al. \(2022\)](#) find no such effect. Regarding directors' arrogance, research by [Utami & Pusparini, \(2019\)](#); [Nurcahyono et al., 2021](#)) suggests a positive impact on financial statement fraud, whereas [Nizarudin et al. \(2023\)](#); [Achmad et al. \(2022\)](#) report no effect. Research by [\(Panggabean et al., 2023\)](#) shows that board of commissioners' duality has a positive effect on fraudulent financial statements, while [Alfarago et al. \(2023\)](#); [Citra et al. \(2022\)](#) show different results, board of commissioners' duality has no effect on financial statement fraud.

This research is based on [Achmad et al. \(2022\)](#) which applied the fraud hexagon framework to detect financial statement fraud and suggested adding a moderating variable. Previous studies have shown inconsistent findings, indicating that additional factors influence the relationship between

fraud hexagon elements and financial statement fraud. [Baron & Kenny \(1986\)](#) argue that such inconsistencies often occur when moderating variables play a role in shaping the relationship between independent and dependent variables. Without a moderating variable, the explanatory power of the model may be weak, leading to inconclusive or less generalizable results. One of the key factors that influence the occurrence of financial statement fraud is effective monitoring. [Efremova et al., \(2023\)](#) found that companies with strong internal control systems are less likely to manipulate financial statements, suggesting that effective oversight can mitigate the risk of fraud. The introduction of effective monitoring as a moderating variable is theoretically grounded in agency theory, which emphasize the role of oversight in reducing opportunistic behavior by management.

LITERATURE REVIEW

Agency Theory

Agency theory explains the interactions and dynamics between the principal and the agent, wherein the principal grants authority to the agent to manage the company and make decisions on their behalf ([Jensen & Meckling, 1976](#)). This relationship is often overshadowed by conflicting interests, which can lead to issues such as information asymmetry and opportunistic behavior by the agent. The principal focuses on increasing the company's value and achieving long-term profitability, whereas the agent may prioritize personal interests, such as compensation, job security, and short-term gains. Information asymmetry arises when the agent has greater and more detailed access to the company's information than the principal, who only receives the information provided by the agent ([Jensen & Meckling, 1976](#)). This creates opportunities for the agent to withhold information or manipulate reports for personal gain. Such behavior may encourage opportunistic actions, including financial statement manipulation, concealing critical information, or taking unnecessary risks.

Financial Statement Fraud

According to the [Association of Certified Fraud Examiners \(2024\)](#), financial statement fraud is classified as one of the three primary types of organizational fraud. It involves presenting inaccurate or misleading financial information with the intent to misrepresent a company's financial condition. The [AICPA \(2002\)](#) identifies two key criteria for categorizing an act as financial statement fraud, intent and materiality. Intent refers to deliberate actions taken to deceive users of financial statements, while materiality concerns the significance of the information, where omissions or misrepresentations can influence economic decisions. Only material errors or manipulations are classified as fraud.

Fraud Hexagon Theory

The theory of fraud has evolved significantly since it was first introduced by [Cressey \(1953\)](#) through the fraud triangle, which explains that fraudulent behavior is influenced by pressure, opportunity, and rationalization. [Wolfe & Hermanson \(2004\)](#) expanded this theory into the fraud diamond by adding the element of capability, which represents the perpetrator's skill to exploit opportunities and execute fraudulent strategies. [Crowe \(2011\)](#) later introduced the fraud pentagon, incorporating an additional element of arrogance, reflecting the perpetrator's overconfidence and belief that they are immune to internal controls. Finally, [Vousinas \(2019\)](#) presented the fraud hexagon with a new element: collusion, which involves collaboration among individuals to deceive others for mutual benefit. These elements are interconnected, encompassing financial pressure, opportunities arising from weak internal controls, rationalization to justify actions, the capability to identify loopholes, arrogance stemming from high-ranking positions, and collusion between internal and external parties. Collectively, these factors can exacerbate a company's condition and significantly increase the risk of fraud.

Effective Monitoring

Effective monitoring will minimize opportunities for perpetrators to commit fraud. According to SAS No. 99, effective monitoring is a condition in which a company has strong oversight mechanisms, including a supervisory unit that effectively reviews the company's performance. [Ghiffari & Fuad, \(2024\)](#) emphasize that effective monitoring reflects a condition where a company's control unit is capable of carrying out its supervisory function properly. Effective monitoring heavily depends on the role of the independent board of commissioners. A lower proportion of independent commissioners within the board may create oversight gaps. If independent commissioners fail to perform their duties effectively, the risk of financial statement fraud will increase.

Hypothesis Development

Financial Target and Financial Statement Fraud

Financial targets are intended to enhance company performance but can pressure management to manipulate financial statements when actual profits fall short. A high Return on Assets (ROA) in the previous year increases profit expectations in the following year, intensifying pressure on management to sustain or exceed past performance ([Yusrianti et al., 2020](#)). This aligns with agency theory, Shareholders and creditors expect high returns, while managers, whose compensation and job security are often tied to financial performance, may resort to financial statement manipulation to meet these expectations ([Nurchoirunanisa et al., 2020](#)). The pressure to satisfy financial targets increases the likelihood of opportunistic behavior, where managers prioritize their own interests, such as maintaining job stability and securing performance based bonuses over the long term health of the company. Empirical studies also support a positive relationship between financial targets and the likelihood of financial statement fraud ([Omukaga, 2021](#)); ([Nurchoirunanisa et al., 2020](#)).

H1: Financial targets positively influence financial statement fraud.

Nature Of Industry and Financial Statement Fraud

Financial statement fraud is frequently observed when the conditions within a company and the industry environment provide opportunities for management to manipulate the financial statements. The nature of the industry influences these opportunities, as certain industry characteristics, such as subjective assessment of receivables, inventory valuation, and inaccurate estimates, increase the risk of fraudulent financial reporting ([Khamainy et al., 2022](#); [Sari et al., 2022](#)). This phenomenon aligns with Agency Theory, In industries where financial reporting heavily relies on estimates, projections, or discretionary accounting policies, managers have greater flexibility to manipulate financial statements. The complexity and subjectivity inherent in certain industries create conditions that allow managers to rationalize fraudulent behavior, such as overstating receivables, inflating revenue, or misclassifying inventory. Previous studies also indicate that opportunities positively influence financial statement fraud ([Sari et al., 2022](#); [Omukaga, 2021](#); [Khamainy et al., 2022](#));

H2: The nature of the industry positively influences financial statement fraud.

Auditor Change and Financial Statement Fraud

The change of external auditors is a factor that can increase the risk of financial statement fraud, as new auditors often lack a deep understanding of the company's financial condition compared to their predecessors ([Agusputri & Sofie, 2019](#)). Management may use auditor changes as a strategy to conceal fraudulent activities and avoid detection. The more frequently auditors are replaced, the greater the opportunity for management to rationalize fraudulent actions. This phenomenon aligns with Agency Theory, management has incentives to act opportunistically to protect their personal interests. One form of opportunistic behavior is changing auditors as a means to conceal financial misstatements ([Nurcahyono et al., 2021](#)). An auditor change creates a transition period, during which

the new auditor may not fully understand the company's operations, accounting practices, or past fraudulent activities. This lack of continuity in the audit process weakens oversight and increases the likelihood of financial statement manipulation ([Pranyanita et al., 2021](#)). Empirical studies support the positive relationship between auditor changes and financial statement fraud ([Nizarudin et al. 2023](#); [Nurcahyono et al. 2021](#)).

H3: Auditor change positively influences financial statement fraud.

Change of Directors and Financial Statement Fraud

The board of directors plays a key role in managing the company and overseeing financial reporting but may also exploit their access to manipulate financial statements ([Ratnasari & Rofi, 2020](#)). Long serving directors have deeper knowledge of financial system weaknesses, increasing fraud risk ([Achmad, et al. 2022](#)). According to Agency Theory, information asymmetry creates conflicts of interest between shareholders (principals) and directors (agents) ([Jensen & Meckling, 1976](#)). Long tenured directors may use entrenchment strategies to maintain control through financial manipulation. Board turnover acts as a governance mechanism to limit opportunistic behavior and enhance shareholder oversight. New directors with higher competence can improve governance and reduce fraud risk ([Ariyanto et al., 2021](#)). Empirical studies support a negative relationship between director changes and financial statement fraud ([Ariyanto et al., 2021](#); [Triastuti et al., 2022](#); [Dwi Maryadi et al., 2020](#)).

H4: Change of directors negatively influences financial statement fraud.

Directors' Arrogance and Financial Statement Fraud

Directors' arrogance, characterized by excessive pride in their position, is a key factor influencing financial statement fraud. Arrogant directors tend to perceive internal controls and regulations as inapplicable to them, thereby increasing the likelihood of fraudulent activities ([Rahma & Sari, 2023](#)). This arrogance is often reflected in the number of photos or personal data of directors displayed in the annual report, which aims to show off their power ([Achmad, et al. 2022](#); [Agusputri & Sofie, 2019](#)). The frequency of photos of directors in annual reports is an indication of an attitude of superiority that often leads to acts of manipulation for personal gain. According to Agency Theory, Arrogant directors, believing they are irreplaceable or beyond scrutiny, may engage in opportunistic behavior such as manipulating financial statements to maintain their status and influence. This behavior weakens corporate governance mechanisms and increases information asymmetry, making fraud harder to detect. Previous research supports this relationship, showing that the arrogance of directors has a positive effect on the level of fraud ([Achmad, et al. 2022](#); [Nizarudin et al., 2023](#)).

H5: Directors' arrogance positively influence on financial statement fraud.

Board of Commissioners' Duality and Financial Statement Fraud

Dual positions on the board of commissioners indicate weak corporate governance and increase the risk of collusion between companies. board of commissioners who have other positions in other companies often face conflicts of interest, which can reduce their independence in overseeing the company ([Valeeva et al., 2020](#)). This conflict of interest can open up opportunities for collusion that lead to fraudulent financial statements ([Achmad, et al. 2022](#)). According to Agency Theory, commissioners holding multiple positions may prioritize personal or group interests, neglecting their primary responsibility as independent supervisors. The inability of commissioners to act objectively worsens corporate governance oversight, increases the likelihood of financial statement manipulation, and weakens managerial control. Previous research supports this relationship, showing that concurrent positions of the board of commissioners have a positive effect on financial statement fraud. this practice reduces the effectiveness of supervision and increases the motive to seek personal gain through collusion ([Panggabean et al., 2023](#)).

H6: Board of Commissioners' Duality positively influence financial statement fraud.

Effective Monitoring Weakens the Effect of Financial Targets on Financial Statement Fraud

High financial targets can encourage management to strive to achieve these targets, although this has the potential to increase pressure for management to commit financial statement fraud to meet shareholder expectations (Riyanti, 2021). According to agency theory, the mismatch of interests between management and shareholders can trigger management to take fraudulent financial statements in order to achieve predetermined targets. Effective monitoring can weaken the relationship between financial targets and financial statement fraud, because adequate supervision inhibits opportunistic management actions. Previous research shows that effective monitoring from stakeholders can increase the risk of fraudulent financial statements, because management feels less supervised and free to take adverse actions (Smaili et al., 2022).

H7: Effective monitoring weakens the relationship between financial targets and financial statement fraud.

Effective Monitoring Weakens the Effect of Nature of Industry on Financial Statement Fraud

Financial statement fraud typically happens when a company's internal circumstances and industry environment provide opportunities for management to alter financial reports. The nature of the industry influences these opportunities, as industry characteristics such as subjective assessments of receivables and inaccurate estimates provide room for management to commit fraud (Khamainy et al., 2022). According to Agency Theory, there is potential for conflicts of interest between company management and shareholders, which can drive opportunistic behavior. Effective monitoring through internal and external mechanisms, such as the number of commissioners and audit committees, can reduce financial statement fraud (Sari et al., 2022). Effective monitoring acts as a counterbalance to the pressures that may arise in high-risk industries, where such pressures can influence management's decisions in presenting financial statements. Therefore, strong monitoring can mitigate the impact of risky industry characteristics on the occurrence of financial statement fraud.

H8: Effective monitoring weakens the relationship between the nature of the industry and financial statement fraud.

Effective Monitoring Weakens the Effect of Auditor Change on Financial Statement Fraud

Management often exploits auditor rotation as a strategy to conceal fraudulent activities, particularly because new auditors may lack a deep understanding of the company's financial conditions compared to their predecessors (Agusputri & Sofie, 2019a). Frequent auditor changes within a short period create opportunities for management to rationalize their actions. According to Agency Theory, Management may take advantage of the situation to maintain control over financial reporting by manipulating audit outcomes. When new auditors lack sufficient understanding, the chances of concealing fraud increase, thereby raising the risk of financial statement fraud (Pranyanita et al., 2021). Proper monitoring can serve as a moderating factor that reduces the impact of auditor rotation on financial statement fraud. Robust supervision mechanisms, including independent audit committees, competent boards of commissioners, and effective internal control systems, can enhance transparency and accountability in the financial reporting process. Such monitoring ensures that even with auditor rotation, audit standards remain upheld, minimizing the potential for manipulation by management.

H9: Effective monitoring weakens the relationship between auditor change and financial statement fraud.

Effective Monitoring Weakens the Effect of Director Change on Financial Statement Fraud

Long serving directors possess deep knowledge of the company's weaknesses, which may be exploited for personal gain (Achmad, et al. 2022). The appointment of new directors brings improved policies, thereby minimizing the potential for fraud by the previous directors (Triastuti et al., 2022). Higher competence in new directors can steer the company toward better governance, reducing the

risk of manipulative actions in financial reporting (Ariyanto et al., 2021). Effective monitoring plays a critical role in mitigating these risks. It can strengthen the relationship between board turnover and financial statement fraud by ensuring transparency, accountability, and thorough audits of the company's financial reports, enabling the identification and minimization of potential fraud (Krishnamoorthy et al., 2023).

H10: Effective monitoring strengthens the relationship between board change and financial statement fraud.

Effective Monitoring Weakens the Effect of Directors' Arrogance on Financial Statement Fraud

Arrogant directors tend to perceive that rules and regulations and internal controls do not pertain to them, which in turn raises the risk of fraud (Rahma & Sari, 2023). This arrogance is often reflected in the excessive display of photos or personal information of directors in annual reports, aiming to showcase their power (Achmad, et al. 2022); Agusputri & Sofie, 2019). According to agency theory, such arrogant behavior demonstrates a conflict of interest between management (agents) and shareholders (principals), where agents tend to prioritize personal interests over the company's interests. This imbalance is exacerbated by the lack of effective monitoring, allowing directors to act opportunistically, including manipulating financial statements for personal gain (Rachmawati & Raharja, 2023). Effective monitoring can weaken the relationship between directors' arrogance and financial statement fraud. This occurs because stricter oversight can uncover manipulative actions or deviations carried out by directors, thereby reducing the potential for fraud.

H11: Effective monitoring weakens the relationship between directors' arrogance and financial statement fraud.

Effective Monitoring Weakens the Effect of Board of Commissioners' Duality on Financial Statement Fraud

Boards of commissioners who hold concurrent positions in other companies often face conflicts of interest, which can reduce their independence in overseeing the company (Valeeva et al., 2020). These conflicts of interest can create opportunities for collusion, leading to financial statement fraud (Achmad, et al. 2022). Based on agency theory, the concurrent roles of the board of commissioners reflect a conflict of interest that exacerbates information asymmetry between shareholders (principals) and management (agents). When the board of commissioners fails to perform its oversight role independently, the risk of irregularities in financial reporting increases. Effective monitoring can weaken the relationship between the concurrent roles of the board of commissioners and financial statement fraud. Effective monitoring is capable of identifying and preventing improper practices.

H12: Effective monitoring weakens the relationship between the concurrent roles of the board of commissioners and financial statement fraud

REASERCH METHODS

This study focused on companies in the Consumer Cyclical sector that were listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. The research utilized secondary data sourced from annual reports, which were downloaded from the official IDX website, as well as additional data obtained from the Bloomberg laboratory, encompassing a total of 165 companies. The research population consists of 825 observations. The sampling method employed a purposive sampling technique based on specific criteria, resulting in 460 observations that could be processed over the 5 year period.

Table 1. Sampling Criteria

No	Criteria	Firm
1	Consumer Cyclical sector companies that are listed on the Indonesia Stock Exchange (IDX) for the period 2019-2023	165
2	Consumer Cyclical sector companies that did not publish a complete annual report consecutively for the 2019-2023 period and are inaccessible	(45)
3	Manufacturing sector companies that did not publish financial statements in Indonesian Rupiah (IDR) for the 2018-2022 period	(37)
	Total sample observed	92
	The total number of data points processed during the 2019-2022 period (5 × 92 = 460 observations)	460

Source: Processed Data, 2024

The dependent variable in this analysis is financial statement fraud, represented by the M-score as an indicator of financial reporting quality. If the Beneish M-Score exceeds -2.22, the company is considered potentially fraudulent and given a score of 1. On the other hand, if the score is lower than -2.22, the company is classified as non-fraudulent and assigned a score of 0 (Aghghaleh et al., 2016). Since this variable is categorical, logistic regression is appropriate for analyzing the probability of fraud. The calculation of the Beneish M-score formula is as follows:

$$Mscore = 4.84 + (0.92 \times DSRI) + (0.528 \times GMI) + (0.404 \times AQI) + (0.892 \times SGI) + (0.115 \times DEPI) + (0.172 \times SGAI) + (4.679 \times TATA) - (0.327 \times LVGI)$$

The research hypothesis was tested using the following regression model:

$$MSCORE = \alpha + \beta_1 FT + \beta_2 NI + \beta_3 AC + \beta_4 DC + \beta_5 DA + \beta BD + \epsilon$$

$$MSCORE = \alpha + \beta_1 FT + \beta_2 NI + \beta_3 AC + \beta_4 DC + \beta_5 DA + \beta BD + \beta_1 FT * EM + \beta_2 NI * EM + \beta_3 AC * EM + \beta_4 DC * EM + \beta_5 DA * EM + \beta BD * EM + \epsilon$$

Table 2. Operational Definition Variables

Variable	Scale	Source
Financial Statement Fraud	$DSRI = \frac{\text{Receivable (t)}}{\text{Sales (t)}} - \frac{\text{Receivable (t-1)}}{\text{Sales (t-1)}}$	(Beneish, 1999)
	$GMI = \frac{\text{Gross Profit t-1 / Sales t-1}}{\text{Gross Profit t / Sales t}}$	
	$AQI = \frac{1 - \frac{(\text{Current Assets t} + \text{Net Fixed Assets t})}{\text{Total Assets t}}}{1 - \frac{(\text{Current Assets t-1} + \text{Net Fixed Assets t-1})}{\text{Total Asset t-1}}}$	
	$SGI = \frac{\text{Sales t}}{\text{Sales t-1}}$	
	$SGI = \frac{\text{Sales, General and Administrative Expenses t}}{\text{Sales t}}$	
	$SGI = \frac{\text{Sales, General and Administrative Expenses t-1}}{\text{Sales t-1}}$	
	$DEPI = \frac{\text{Depreciation Expense t-1}}{(\text{Depreciation Expense t-1} + \text{Net Fixed Assets t-1})}$	
	$DEPI = \frac{\text{Depreciation Expense t}}{(\text{Depreciation Expense t} + \text{Net Fixed Assets t})}$	
	$LVGI = \frac{\text{Net Income t} - \text{Operating Cash Flow t}}{\text{Total Asset t}}$	

Variable	Scale	Source
	$\frac{(\text{Short-term Debt } t + \text{Long-term Debt } t)}{\text{Total Assets } t}$	
	$\text{TATA} = \frac{(\text{Short-term Debt } t - 1 + \text{Long-term Debt } t - 1)}{\text{Total Assets } t - 1}$	
Financial Target	$\text{ROA} = \frac{\text{Net Income Before Extraordinary Item } (t - 1)}{\text{Total asset}}$	(Skousen et al., 2008)
Nature of Industry	$\text{Receivable} = \frac{\text{Receivable } (t)}{\text{Sales } (t)} - \frac{\text{Receivable } (t - 1)}{\text{Sales } (t - 1)}$	(Skousen et al., 2008)
Auditor changes	A value of 1 if the company changes its auditor and 0 otherwise	(Achmad, et al. 2022)
Director changes	A value of 1 if the company changes its board of directors, and 0 otherwise	(Khamainy et al., 2022)
Directors' arrogance	The number of photos of key directors featured in the company's annual report	Nizarudin et al., 2023)
Board of Commissioners' Duality	MC = Number of dual board positions held in other companies / Total number of board members in each annual reporting period	(Achmad, et al. 2022)
Effective Monitoring	BDOU = Number of independent board of commissioners / Total board of commissioners	(Achmad, et al. 2022)

RESULTS

Descriptive statistics offer a comprehensive summary of the data, encompassing the mean, standard deviation, as well as the maximum and minimum values for each variable.

Table 3. Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev	N
M Score	0.845291	1.000000	1.000000	0.000000	0.362033	460
Financial targets	0.043599	0.038850	0.607200	-	0.113032	460
Nature of Industry	0.087670	0.034263	4.532418	-	3.176172	460
Auditor changes	0.134529	0.000000	1.000000	0.000000	0.341603	460
Director changes	0.105381	0.000000	1.000000	0.000000	0.307389	460
Directors' arrogance	1.681614	2.000000	5.000000	0.000000	0.593578	460
Board of Commissioners' Duality	1.719151	1.225000	2.600000	0.000000	2.548640	460
Effective monitoring	0.408794	0.333300	0.833300	0.250000	0.109098	460

Sources: Output reviews 13, 2024

The descriptive statistics results show that the M Score has an average of 0.8453, with a median of 1.0000, indicating that most companies in the sample exhibit signs of financial statement fraud. Financial targets have a low average (0.0436), suggesting that financial pressure is not

significant for most companies. Nature of industry has a high standard deviation (3.1762), indicating substantial differences across industries in relation to fraud potential. Auditor and director changes are infrequent, as seen from the median value of 0.0000 for both variables. Directors' arrogance and Board of Commissioners' duality have high averages (1.6816 and 1.7192), which may indicate that director arrogance and dual board positions are quite common. Meanwhile, Effective monitoring has an average of 0.4088, suggesting that the effectiveness of oversight can still be improved.

Table 4. Hosmer and Lemeshow Goodness Of Fit Test

H-L Statistic	5.8056	Prob. Chi-Sq(8)	0.6690
Andrews Statistic	8.2186	Prob. Chi-Sq(10)	0.6075

Sources: Output eviws 13, 2024

The results of the Hosmer and Lemeshow goodness-of-fit test show a significance value of 0.6690, which is greater than 0.05, indicating that the research model used is a good fit for the observational data.

Table 5. Test Coefficient of Determination

McFadden R-squared	0.080079	Mean dependent var	0.843537
S.D. dependent var	0.363706	S.E. of regression	0.350353
Akaike info criterion	0.843396	Sum squared resid	52.90410
Schwarz criterion	0.936119	Log likelihood	-175.9689
Hannan-Quinn criter.	0.879972	Deviance	351.9379
Restr. deviance	382.5739	Restr. log likelihood	-191.2869
LR statistic	30.63600	Avg. log likelihood	-0.399023
Prob(LR statistic)	0.000342		

Sources: Output eviws 13, 2024

The Nagelkerke R Square test result, which can be interpreted similarly to an estimated R^2 value, indicates that 0.080079 suggests the dependent variable explains approximately 8% of the variation in the data, while the remaining variation is explained by variables outside the research model. The simultaneous test, with a Likelihood Ratio Test value of 0.000342, which is less than 0.05, concludes that all independent variables in this study simultaneously influence the dependent variable.

Table 4. Regression Results

Hypothesis.	Coefficient	Prob	Result
H1: Financial targets have a positive effect on financial statement fraud	4.905332	0.0036*	Accepted
H2: Nature of industry have a positive effect on financial statement fraud	0.094092	0.1167	Rejected
H3: Auditor changes have a positive effect on financial statement fraud	-0.270420	0.4695	Rejected
H4: Director changes have a negative effect on financial statement fraud	-0.376058	0.3801	Rejected
H5: Directors' arrogance have a positive effect on financial statement fraud	-0.396460	0.1129	Rejected
H6: Board of commissioners' duality have a positive effect on financial statement fraud	0.116879	0.0059*	Accepted
H7: Effective monitoring weakens the effect of financial targets on financial statement fraud	-9.524772	0.0015*	Accepted
H8: Effective monitoring weakens the effect of nature of industry on financial statement fraud	0.215831	0.1559	Rejected

Hypothesis.	Coefficient	Prob	Result
H9: Effective monitoring weakens the effect of auditor changes on financial statement fraud	-0.586635	0.4852	Rejected
H10: Effective monitoring strengthens the effect of director changes on financial statement fraud	-0.542118	0.5348	Rejected
H10: Effective monitoring weakens the effect of directors' arrogance on financial statement fraud	-1.332989	0.0033*	Accepted
H12: Effective monitoring weakens the effect of board of commissioners' duality on financial statement fraud	-0.329009	0.0076*	Accepted

***significant at 1%, **significant at 5%, *significant at 10%

Sources: Output eviws 13, 2024

DISCUSSION

The effect of financial targets on financial statement fraud

Financial targets have a significance value of 0.0036. As this value is lower than the significance level of $\alpha = 1\%$, it suggests that financial targets positively influence financial statement fraud. High ROA in the previous year increases profit expectations for the following year, creating greater pressure on management (Yusrianti et al., 2020). Investors and creditors also add further pressure by expecting high dividends and the return of funds according to contractual agreements, prompting management to boost company profits through various means (Nurchoirunanisa et al., 2020). These findings support agency theory, which states that there is a conflict of interest between agents (management) and principals (shareholders and creditors). Principals seek high and stable profits, while agents, who have personal interests such as performance based bonuses and job stability, face pressure to achieve the set targets. As a result, management may be driven to manipulate financial statements to maintain the company's image and meet shareholder and creditor expectations. These results align with previous research Omukaga, (2021); Nurchoirunanisa et al., (2020); Ghiffari & Fuad, (2024) that also found a positive relationship between financial targets and the potential for financial statement fraud.

The effect of nature of industry on financial statement fraud

The research findings indicate that the nature of industry has a significance value of 0.4695, which is greater than 0.05. This suggests that the nature of the industry does not significantly influence financial statement fraud. Although industries with higher risks or complexities, such as those heavily reliant on estimations or facing unstable market conditions are often perceived as more vulnerable to fraud. This result does not support agency theory, which states that there is a conflict of interest between agents and principals. Instead, the findings suggest that internal company factors, such as corporate governance and oversight, play a more crucial role in preventing fraud than industry characteristics (Yono & Indira, 2024). Therefore, even in industries with high levels of uncertainty, effective control mechanisms can still mitigate fraudulent practices. These findings are consistent with studies conducted by Sari et al. (2022); Omukaga (2021); Khamainy et al. (2022); Lestari & Jayanti, (2021), which concluded that the nature of the industry does not significantly affect financial statement fraud.

The effect of audit changes on financial statement fraud

Audit changes have a significance value of 0.4695, which is greater than 0.05. This indicates that audit changes do not significantly influence financial statement fraud. Auditor changes are often perceived as a potential indicator of financial reporting issues, particularly when management replaces auditors who are deemed overly strict or demand greater transparency (Lestari & Jayanti,

2021; Achmad et al., 2022). These findings do not support agency theory. The results of this study indicate that auditor changes are not always related to an attempt by management to conceal fraud. Instead, they are often driven by regulatory factors, the expiration of an auditor's tenure, or the need to improve audit quality (Kusumastuti & Sari, 2023). Furthermore, new auditors typically conduct thorough initial reviews, which can actually reduce the likelihood of fraud during the transition period (Pranyanita et al., 2021). These findings align with previous research that found no relationship between auditor changes and financial statement fraud (Nizarudin et al., 2023; Nurchoirunanisa et al., 2020; Kusumastuti & Sari, 2023; Lestari & Jayanti, 2021).

The effect of director changes on financial statement fraud

Director changes have a significance value of 0.3801, which is greater than 0.05. This indicates that director changes do not significantly influence financial statement fraud. Companies that do not replace their directors often aim to retain those who have demonstrated the ability to improve the company's performance and identify promising future prospects (Lestari & Jayanti, 2021). These findings do not support agency theory, the results of this study indicate that director changes are more often driven by natural factors, such as the expiration of tenure, declining company performance, or other nonmanagerial factors, rather than suspicions of fraud. Furthermore, directors with a proven track record of improving company performance tend to be retained for longer periods, helping to maintain company stability and reduce pressure to manipulate financial statements. These findings are consistent with previous studies conducted by (Achmad et al. 2022; Nizarudin et al., 2023; Citra et al., 2022; Ghiffari & Fuad, 2024).

The effect of directors' arrogance on financial statement fraud

Directors' arrogance has a significance value of 0.1129, which is greater than 0.05. This indicates that directors' arrogance does not significantly influence financial statement fraud. In the manufacturing sector, the main directors' photos generally appear twice, which does not indicate arrogance or overconfidence. These photos serve primarily as a means to introduce the directors' profiles to the public and as a form of accountability for their performance to shareholders (Achmad et al. 2022). These findings do not support agency theory. Directors' arrogance can increase their tendency to disregard oversight mechanisms and make risky decisions, including manipulating financial statements to maintain their image and power. However, the research results indicate that the appearance of directors' photos in annual reports is not an indication of arrogance that leads to fraud but rather an effort toward transparency and accountability (Lestari & Jayanti, 2021). These findings are consistent with previous studies that state directors' arrogance does not significantly influence financial statement fraud (Achmad et al., 2022; Alfarago et al., 2023; Lestari & Jayanti, 2021).

The effect of board of commissioners' duality on financial statement fraud

The duality of the board of commissioners has a significance value of 0.0059, which is less than 0.01. This indicates that the duality of the board of commissioners positively influences financial statement fraud. Holding positions in multiple companies creates conflicts of interest, weakens corporate governance, and increases the risk of collusion (Valeeva et al., 2020). These findings support agency theory, the duality of the board of commissioners can create opportunities for agents to act opportunistically by leveraging their positions in multiple companies for personal or group gain. The conflicts of interest arising from these dual roles can reduce the effectiveness of oversight, making it easier for management to manipulate financial statements. Previous studies have also demonstrated that the duality of the board of commissioners positively influences financial statement fraud, as commissioners with interests in multiple companies tend to lack objectivity in carrying out their supervisory functions (Panggabean et al., 2023).

Effective monitoring weakens the effect of financial targets on financial statement fraud

The research results show a significance value of 0.0015, which is less than 0.01, indicating that the hypothesis is accepted. Effective monitoring weakens the relationship between financial targets and financial statement fraud. High financial targets can push management to strive to achieve them, potentially increasing pressure on management to commit financial statement fraud in order to meet shareholder expectations (Riyanti, 2021). Effective monitoring can reduce the relationship between financial targets and financial statement fraud, as adequate oversight can inhibit opportunistic actions by management. These findings support agency theory, these findings suggest that strong monitoring mechanisms can reduce information asymmetry between agents (management) and principals (shareholders). With strict monitoring in place, management finds it more difficult to act opportunistically, thereby reducing the risk of financial statement fraud. Previous studies have also shown that effective monitoring by stakeholders can reduce the risk of financial statement fraud (Hidayat & Utami, 2023).

Effective monitoring weakens the effect of nature of industry on financial statement fraud

The research results show a significance value of 0.1559, which is greater than 0.01, indicating that the hypothesis is rejected. Effective monitoring does not weaken the relationship between the nature of the industry and financial statement fraud. These research findings do not support agency theory, which assumes that effective monitoring can reduce information asymmetry and limit managerial opportunistic behavior. However, in industries with complex characteristics or those heavily reliant on cash transactions, manipulation becomes more difficult to detect, and monitors may lack a deep understanding of the industry's unique nature, thereby limiting the effectiveness of oversight (Citra et al., 2022). The dynamic or volatile nature of an industry can also complicate monitoring efforts in accurately evaluating risks (Situngkir & Triyanto, 2020). Therefore, although effective monitoring is expected to reduce the risk of fraud associated with the nature of the industry, the research findings show that monitoring does not always successfully fulfill this function optimally (Ghiffari & Fuad, 2024).

Effective monitoring weakens the effect of auditor changes on financial statement fraud

The study findings reveal a significance value of 0.4852, which exceeds 0.01, leading to the rejection of the hypothesis. This implies that effective monitoring does not mitigate the relationship between auditor changes and financial statement fraud. These findings do not support agency theory, which assumes that effective monitoring mechanisms can reduce information asymmetry and limit opportunistic behavior by management. However, in this case, monitoring effectiveness fails to mitigate the impact of auditor changes on financial statement fraud. This may occur because auditor changes often involve a transition period during which the new auditor requires time to fully understand the company's financial condition, leading to a temporary decline in oversight effectiveness (Omukaga, 2021). Additionally, auditor changes may be strategically motivated, where management selects more lenient auditors to conceal fraudulent activities (Omukaga, 2021). As a result, monitoring, which is expected to minimize conflicts of interest, does not function optimally, contradicting the principles of agency theory.

Effective monitoring strengents the effect of director changes on financial statement fraud

The research results show a significance value of 0.5348, which is greater than 0.01, indicating that the hypothesis is rejected. Effective monitoring does not weaken the relationship between the director Changes and financial statement fraud. These findings contradict agency theory, which assumes that effective monitoring reduces information asymmetry and limits opportunistic behavior. However, director changes create transitional challenges, where new directors require time to adapt, leading to oversight gaps (Citra et al., 2022). Additionally, changes may occur due to tenure completion, poor performance, or external pressures, none of which guarantee improved governance

(Omukaga, 2021). In some cases, new directors may struggle to establish a strong monitoring framework, failing to mitigate fraud risks.

Effective monitoring weakens the effect of directors' arrogance on financial statement fraud

The study findings indicate a significance value of 0.0033, which is below 0.01, confirming that the hypothesis is accepted. This means that effective monitoring weakens the relationship between directors' arrogance and financial statement fraud. These findings support agency theory, which asserts that effective oversight mechanisms can reduce information asymmetry and limit opportunistic behavior by management. Arrogant directors tend to believe that rules and internal controls do not apply to them, increasing the likelihood of fraudulent activities (Rahma & Sari, 2023). This arrogance reflects a conflict of interest between management (agents) and shareholders (principals), where agents may prioritize personal interests over the company's well-being. However, effective monitoring mitigates this risk by enforcing stricter supervision, which increases the likelihood of detecting manipulative actions or deviations committed by directors. These findings are consistent with previous studies Khamainy et al. (2022); Ghiffari & Fuad (2024).

Effective monitoring weakens the effect of board of commissioners' duality on financial statement fraud

The study results indicate a significance value of 0.0076, which is below 0.01, confirming that the hypothesis is supported. This suggests that effective monitoring reduces the impact of board of commissioners' duality on financial statement fraud. These findings support agency theory, which asserts that strong oversight mechanisms can reduce information asymmetry and limit conflicts of interest between shareholders (principals) and management (agents). Members of the board of commissioners who hold positions in other companies often face conflicts of interest, which can compromise their independence in overseeing the company (Valeeva et al., 2020). Such conflicts increase the risk of collusion, creating opportunities for fraudulent financial reporting (Achmad, et al., 2022). These findings are consistent with previous studies Khamainy et al., (2022); Ghiffari & Fuad (2024).

CONCLUSION

This study identifies key factors influencing financial statement fraud, highlighting that financial targets and board duality significantly increase fraud risks, especially in weak governance environments. Effective monitoring helps mitigate the impact of financial targets, directors' arrogance, and board duality, emphasizing the importance of strong oversight in corporate governance. However, industry nature, auditor and director changes, and directors' arrogance did not significantly impact fraud, challenging previous assumptions that external pressures or leadership transitions directly lead to fraud. Additionally, monitoring proved ineffective in addressing fraud risks related to industry complexity and leadership transitions. By integrating Agency Theory and the Fraud Hexagon Model, this study contributes to fraud detection literature by showing that while monitoring reduces certain fraud risks, it has limitations in addressing external pressures and transitional challenges, highlighting the need for industry-specific governance strategies.

SUGGESTION

Companies must strengthen their oversight systems with an independent audit committee, AI-based fraud detection technology, and strict regulations to limit board duality. Additionally, auditor and director transitions should be monitored with strict protocols to prevent manipulation during the adaptation period. Supervision should also be tailored to industry characteristics to enhance effectiveness in preventing financial statement fraud.

Future research should investigate how effective monitoring reduces fraud in high-risk industries such as financial, manufacturing, and basic materials. Additionally, future studies should

explore alternative effective monitoring metrics, including board meeting frequency, audit committee expertise, and whistleblowing system effectiveness, to enhance fraud detection.

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