

(Research Article)

Heptagon Fraud: Detecting Financial Statement Fraud in Indonesia's Consumer Goods Manufacturing Industry

Dhini Permatasari ^{1*}, Saring Suhendro ²

¹ Faculty Economic and Bussiness, Universitas Lampung; email : dhinipermatasari84@gmail.com

² Faculty Economic and Bussiness, Universitas Lampung; email : saring.suhendro@feb.unila.ac.id

* Corresponding Author : Dhini Permatasari

Abstract: This study aims to identify the effectiveness of the heptagon fraud model in detecting fraudulent financial reporting within consumer goods sector companies listed on the Indonesia Stock Exchange (IDX). A quantitative research approach is employed, utilizing secondary data sourced from IDX-listed companies. The research population comprises consumer goods manufacturing firms listed on the IDX between 2019 and 2023. Based on specific selection criteria, 41 companies were chosen as the study sample. The data analysis involves various techniques, including descriptive statistics, the Overall Model Fit Test, the Hosmer and Lemeshow goodness-of-fit test, the coefficient of determination (Nagelkerke's R-square), the Omnibus Test of Model Coefficients (F-test), and the Wald Chi-Squared Test (WALD). The findings reveal that the pressure has a significant positive impact on financial statement fraud. Meanwhile, arrogance is found to have a significant negative impact on the occurrence of financial statement fraud. In contrast, other factors, opportunity, rationalization, capability, ignorance, and greed do not exhibit a significant influence on fraudulent financial reporting.

Keywords: fraud heptagon, financial statement fraud, fraud

1. Introduction

Financial statement fraud is becoming an increasingly deep issue in the business and financial sectors, especially since information about company performance is available in the financial statements [1]. Based on [2] explains that the disclosure of financial statements must be made independently of material errors. Business people are expected to provide accurate and relevant information without committing fraud, so that all users of these financial statements are not disadvantaged when making decisions. However, demands to achieve effective and efficient financial performance encourage companies to behave as if their financial statements are in good condition [3]. Companies often use various ways to maintain the appearance of financial statements to make them look appealing so that they can mislead stakeholders [3]. Management does not succeed in presenting financial statements appropriately and accurately, especially due to material misstatements that might cause or encourage fraudulent acts. Financial statements are presented dishonestly and lose their relevance due to manipulating a large amount of data contained in them [1]. If undetected, financial statement fraud can be a serious problem that disadvantages many parties involved [4]. This kind of action is included in the category of fraud.

Fraud is a global issue that occurs across various regions and industries. According to ACFE in RTTN, Indonesia classified within the Asia-Pacific region continues to demonstrate a relatively high incidence of fraud. In 2019, Indonesia emerged as the leading country in terms of reported fraud cases in the area, with a total of 36 cases. In 2021, Indonesia ranked fourth with 23 reported cases, and in 2023, the country advanced to third place with 25 cases. These figures indicate that the frequency of fraud in Indonesia remains significant in

Received: 18 February 2025

Revised: 16 March 2025

Accepted: 23 April 2025

Published: 25 April 2025

Curr. Ver.: 25 April 2025



Hak cipta: © 2025 oleh penulis.
Diserahkan untuk kemungkinan
publikasi akses terbuka
berdasarkan syarat dan ketentuan
lisensi Creative Commons
Attribution (CC BY SA) (
<https://creativecommons.org/licenses/by-sa/4.0/>)

comparison to other countries within the Asia-Pacific region. The ACFE categorizes fraud into three main types: asset misappropriation, corruption, and financial statement fraud. In 2019, the average financial loss resulting from financial statement fraud reached USD 954,000, substantially higher than corruption (USD 200,000) and asset misappropriation (USD 100,000). In 2021, the average loss from financial statement fraud decreased to USD 593,000, while losses from corruption stood at USD 150,000 and asset misappropriation remained at USD 100,000. However, by 2023, losses due to financial statement fraud advanced again to USD 766,000, with corruption at USD 200,000 and asset misappropriation at USD 120,000. These findings indicate that although the occurrence of financial statement fraud is lower than other types of fraud, its financial impact is significantly greater.

The phenomenon of financial statement fraud has been identified in companies across the globe. In Indonesia, similar practices have been found in enterprises operating in various industrial sectors, including the manufacturing sector. Regarding investment, the Ministry of Industry (Kementerian Perindustrian/Kemenperin) reported that between 2019 and 2023, investment in the manufacturing sector increased from IDR 213.44 trillion to IDR 457.6 trillion. This indicates that the manufacturing sector remains a major attraction for investors. One of the sub-sectors within the manufacturing industry is the consumer goods industry. According to Kemenperin, the consumer goods industry plays a vital role in supporting Indonesia's economy and continues to attract significant investor interest. Based on this data, the consumer goods manufacturing sector presents considerable economic potential and offers promising returns for investors. However, it also carries substantial risk, particularly when management engages in financial statement fraud by presenting financial information that is inconsistent with the actual company's condition. Therefore, identifying the presence of financial statement fraud is crucial. This issue remains a persistent challenge in the consumer goods manufacturing sector. Several companies in this industry have previously been implicated in such practices, including PT Tiga Pilar Sejahtera Tbk, PT Kimia Farma Tbk, and the more recent case involving PT Indofarma Global Medika Tbk, a subsidiary of PT Indofarma Tbk. Given the frequency of such incidents, proactive measures to prevent and detect financial statement fraud are essential to safeguarding the interests of investors and maintaining the integrity of the sector.

The Fraud Heptagon theory is employed in this study to examine its effectiveness in detecting financial statement fraud. This theory is selected as it is considered the most comprehensive approach in fraud detection efforts. By applying this theory, detection is expected to be conducted accurately and effectively. Additionally, the theory remains relatively underutilized in Indonesia. The Fraud Heptagon theory was developed as a complement to several preceding fraud theories, including the fraud triangle, fraud diamond, and fraud pentagon. The selection of companies in the manufacturing sector as the sample for this study is based on several key considerations. According to the 2023 survey conducted by ACFE, the manufacturing sector remains among the top three industries with the highest incidence of financial statement fraud. Furthermore, the most recent case of financial statement fraud in Indonesia involved a manufacturing company, PT Indofarma Tbk which operates in the consumer goods industry, specifically within the pharmaceutical sector. This underscores the sector's continued vulnerability to fraudulent financial reporting.

2. Literatur Review and Hypothesis Development

2.1. Agency Theory

Agency Theory, as articulated by Jensen and Meckling in 1976, outlines the relationship between the owners of a company (principals) and its managers (agents). This theory posits that principals seek to obtain reliable information regarding the company's operational activities, primarily through financial statements that precisely represent the company's financial standing and results. The ultimate objective of the principals is to enhance shareholder wealth and enhance the overall company's value [6]. In contrast, agents often act in their own self-interest, which may conflict with the goals of the principals. As a result, managers may engage in practices aimed at presenting a more favorable image of their

performance to the principals [6]. This misalignment of interests may lead to the concealment or omission of actual information, resulting in the manipulation of financial statements.

2.2 Financial Statement Fraud

Financial statement fraud arises when financial reports are prepared and presented without adhering to the procedures outlined in the Indonesian Financial Accounting Standards (PSAK). Intentional misstatements take place when financial statements are deliberately prepared by concealing information that is required to be disclosed [7]. Examples of such fraud include the overstatement or understatement of financial figures beyond their actual values, such as inflating revenue, assets, and profits, or understating expenses and liabilities [8].

2.3 Fraud Heptagon Theory

The Fraud Heptagon was proposed by Mohamed Yusof in 2016. The Fraud Heptagon Theory is an extension of previous fraud theories, including the Fraud Triangle, Fraud Diamond, and Fraud Pentagon. Yusof provided empirical evidence on the causes of financial statement fraud in Malaysia. He proposed that ignorance and greed should be considered as additional factors contributing to fraudulent behavior, thereby forming the basis of the Fraud Heptagon Model. This model comprises seven variables: pressure, opportunity, rationalization, capability, arrogance, ignorance, and greed.

2.4 Hypothesis Development

Pressure on Financial Statement Fraud

Pressure is conceptualized as a condition that may motivate management to engage in the manipulation of financial reports. In accordance with SAS No. 99, one of the commonly used proxies to assess pressure is financial stability. Financial stability reflects a company's overall financial position, and one of the key indicators used to evaluate this stability is the growth of total assets [9]. Firms that consistently exhibit stable asset growth are generally perceived as financially sound, thereby attracting potential investors and encouraging creditors to provide capital [1]. However, financial stability is not always sustained; companies may experience periods of instability [4]. According to [10], a decline in economic or operational performance can pose a threat to a firm's financial stability. Under such circumstances, management may face significant pressure to maintain the appearance of consistent performance in order to preserve investor confidence and ensure continued financial support. In response to this pressure, management may undertake aggressive financial reporting practices, encompassing the alteration or distortion of financial statements to portray an image of robust asset growth. This argument is supported by prior studies conducted by [11], [12], [13]. Consequently, the first hypothesis is formulated as follows:

Hypothesis 1. Pressure has a positive effect on Financial Statement Fraud

Opportunity on Financial Statement Fraud

Opportunity is understood as the situations that enable management to engage in fraudulent activities, often resulting from inadequate internal controls. Such opportunities typically arise due to weak internal controls. According to [9], financial statement manipulation can be facilitated by the existence of opportunities, which are often indicated by ineffective oversight mechanisms. Independent commissioners, appointed by the principals, are responsible for supervising management operations and ensuring that financial reports provide an accurate representation of the company's actual financial condition. According to the Fraud Heptagon Theory, inadequate oversight increases the probability of financial statement manipulation. As stated by [14], fraud may occur when a company's internal control systems are not functioning effectively. This lack of effective supervision creates opportunities for fraud, as agents perceive the absence of strict monitoring. This argument is supported by prior studies conducted by [15] and [1]. Consequently, the second hypothesis is formulated as follows:

Hypothesis 2. Opportunity has a positive effect on Financial Statement Fraud

Rationalization on Financial Statement Fraud

Rationalization is defined as the process by which management constructs a cognitive justification to legitimize their fraudulent behavior. According to [9], change in auditor can represent rationalization for detecting inaccuracies in financial reports due to fraud. As stated by [16], management may view the replacement of auditors as a rationalization for engaging in fraud, as they do not perceive their actions as wrongful. The preceding auditor may have identified potential indicators of fraud; however, through auditor replacement, the findings identified by the former auditor may be concealed [4]. Management may take advantage of this situation to commit fraud, gain personal benefit, and mislead stakeholders by presenting the company as being in a favorable condition. This false portrayal can lead stakeholders to maintain confidence in the company and continue their investment activities. This argument is supported by prior studies conducted by [15] and [17]. Consequently, the third hypothesis is formulated as follows:

Hypothesis 3. Rationalization has a positive effect on Financial Statement Fraud

Capability on Financial Statement Fraud

Fraud may be committed without detection by the organization [18]. CEO education is one of the proxies used to represent capability. According to [19], educational background is essential for delivering superior performance in a business context. However, within the framework of agency theory, higher education does not necessarily reduce the risk of fraud; instead, it may enhance an agent's ability to exploit information asymmetry for personal gain. As agents with broader access to information, CEOs may withhold certain data from principals who face limitations in obtaining comprehensive information. A CEO with a high level of education may have the potential to manipulate financial statements due to their ability to identify weaknesses in corporate standards and leverage their knowledge to prepare financial reports that serve their own interests [20]. Consequently, the forth hypothesis is formulated as follows:

Hypothesis 4. Capability has a positive effect on Financial Statement Fraud

Arrogance on Financial Statement Fraud

Arrogance can be characterized as an attitude of unwarranted self-assurance or perceived superiority exhibited by individuals engaged in fraudulent activities [21]. Arrogance is commonly measured using CEO duality. One of the characteristics of arrogance is when a CEO simultaneously holds multiple positions within the same organization. This dual role reflects the CEO's sense of superiority and may influence corporate decision-making processes [22]. In the Indonesian context, CEO duality is often manifested in familial ties between members of the board of directors and the board of commissioners [23]. Such family-based duality may increase conflicts of interest, as the CEO may act in ways that serve personal interests, supported by weak oversight. Familial connections between the board of directors and the board of commissioners may serve as a catalyst for financial statement fraud, as these ties provide the CEO with opportunities to negotiate or influence the board of commissioners to approve decisions that maximize personal benefit. As a result, the CEO is granted greater freedom in decision-making. This argument is supported by prior studies conducted by [22]. Consequently, the fifth hypothesis is formulated as follows:

Hypothesis 5. Arrogance has a positive effect on Financial Statement Fraud

Ignorance on Financial Statement Fraud

Ignorance is defined as a lack of understanding and awareness regarding the risks associated with fraudulent behavior. According to [24], ignorance is a contributing factor to the incidence of financial statement fraud. As stated by [8], training programs are an integral component of anti-fraud initiatives. Such programs are valuable in minimizing losses resulting from fraudulent activities and ensuring that fraud can be detected in a timely manner. The absence of sufficient corporate governance courses for both executive and non-executive directors may intensify conflicts of interest between principals and agents. A lack of training in corporate governance for directors is one of the key reasons behind limited knowledge and insufficient skills required to properly review and evaluate financial reports. This deficiency creates an opportunity for perpetrators to commit financial statement fraud without detection. This argument is supported by prior studies conducted by [25]. Consequently, the

sixth hypothesis is formulated as follows:

Hypothesis 6. Ignorance has a positive effect on Financial Statement Fraud

Greed on Financial Statement Fraud

Greed is typically conceptualized as an excessive and insatiable desire to acquire or retain more than what is reasonably necessary or merited [26]. According to [24], individuals who exhibit negative traits such as greed may be more inclined to engage in financial statement fraud. From an expert perspective, board members' remuneration can serve as an effective proxy for greed, as it represents the compensation allocated to executives in recognition of their performance and contributions toward organizational success. In an attempt to present a more favorable picture of the company's financial condition, management may engage in various forms of financial statement manipulation. Such actions enable executive directors to derive greater personal benefits. . This argument is supported by prior studies conducted by [27], [28], and [29]. Consequently, the seventh hypothesis is formulated as follows:

Hypothesis 7. Greed has a positive effect on Financial Statement Fraud

3. Research Methods

This study adopts an explanatory research design, aiming to analyze the impact of fraud heptagon components on financial statement fraud in consumer goods manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The research population consists of manufacturing firms in the consumer goods sector that are listed on the IDX and have published complete annual reports for 2019 and 2023. The sample was selected based on the following criteria: 1) Companies must be consistently listed on the IDX throughout the 2019–2023 period; 2) Companies that failed to publish complete audited annual reports during the study period were excluded; 3) Companies that did not present financial reports in Indonesian rupiah were also excluded; and 4) Companies that did not have complete data based on the variables used in this study were not included in the sample.

The dependent variable in this research is financial statement fraud, which is assessed using the F-Score model [30]. The formula used to calculate the F-Score is as follows:

Table 1. Variable operational definition

Variable	Proxy	Measurement	References
Financial Statement Fraud	F-Score model	$\text{F-Score} = \text{Probability} / 0,0037, \quad \text{Unconditional probability} = 0,0037$ $\text{Probability} = \frac{e^{(\text{Predicted Value})}}{1 + e^{(\text{Predicted Value})}}, \quad e = 2,71828183$ $\text{Predicted value} = -7.893 + (0.790 \times \text{RSST}) + (2.518 \times \Delta \text{REC}) + (1.191 \times \Delta \text{INV}) + (1.979 \times \text{SOFTASSETS}) + (0.171 \times \Delta \text{CASHSALES}) - (0.932 \times \Delta \text{EARNINGS}) + (1.029 \times \text{ISSUE}).$ <p>If the f-score exceeds a value of 1, it indicates evidence supporting the occurrence of fraud within the company. Conversely, if the f-score is below 1, it suggests that there are no significant indications of fraud within the company. The dummy variable is assigned a value of 1 in the presence of financial statement fraud during the 2019-2023 period, and a value of 0 when no such fraud is observed.</p>	Dechow et al. (2011)
Pressure	Financial Stability	$\text{ACHANGE} = \frac{\text{Total Assets (t)} - \text{Total Asset (t-1)}}{\text{Total Asset (t-1)}}$	Skousen, et al (2009)

Variable	Proxy	Measurement	References
Opportunity	Ineffective Monitoring	BDOU= Number of Independent Commissioners/Total number of commissioners	Skousen, et al (2009)
Rationalization	Change in Auditor	The dummy variable is assigned a value of 1 when an auditor change occurs during the 2019-2023 period, and a value of 0 when no such change takes place.	Skousen, et al (2009)
Capability	CEO's Education	The dummy variable is assigned a value of 1 if the CEO holds a graduate-level degree or higher, and a value of 0 if this is not the case	Lestari and Henny, (2019).
Arrogance	CEO Duality	The dummy variable is assigned a value of 1 if CEO duality exists during the 2019-2023 period, and a value of 0 if CEO duality is absent.	Tarjo et al., (2021)
Ignorance	Insufficient corporate governance courses for executive and non executive directors	INEDU= Number corporate governance courses/ Total number of B.O.D.s	Yusof (2016)
Greed	Remuneration	REM= Actual amounts Directors Rumenerations/Profit or Loss after tax	Yusof (2016)

Source: Data processed (2025).

4. Result and Discussion

4.1 Result

A total of 95 manufacturing companies in the consumer goods sector were listed on the Indonesia Stock Exchange (IDX) during the 2019-2023 period. Among them, 41 companies published complete annual reports and presented financial statements in rupiah currency, accompanied by comprehensive data. As a result, the sample for this study consisted of 41 manufacturing companies from the consumer goods sector, observed over a 5-year period, yielding a total of 205 research samples. Data analysis was performed using SPSS 26 (2025), which included several tests, such as descriptive statistics, the Overall Model Fit Test, the Hosmer and Lemeshow goodness-of-fit test, the coefficient of determination (Nagelkerke's R-square), the Omnibus Test of Model Coefficients (F-test), and the Wald Chi-Squared Test (WALD). The statistical results, as presented in Table 2, show a total sample size of 205.

Table 2. Descriptive statistics.

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
PRS	205	-,49	,80	,0479	,17658
OPT	205	,20	,83	,4281	,11531
RTZ	205	,00	1,00	,4000	,49110
CAP	205	,00	1,00	,4293	,49618
ARG	205	,00	1,00	,3122	,46452
IG	205	,00	9,25	,6988	1,28584
GR	205	-,91	146,80	1,2755	10,79341
FSF	205	,00	1,00	,1415	,34935
Valid N (listwise)	205				

Source: Data processed by SPSS 26, 2025.

Based on Table 3, the results of the regression analysis indicate that the model has a 85.9% accuracy in predicting financial statement fraud. According to the table, 14.1% of the

total sample of 205 companies are predicted to have committed financial statement fraud, while the remaining 85.9% are classified as non-fraudulent.

Table 3. Variable frequency statistics Y

FSF					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid 0	176	85,9	85,9	85,9	
1	29	14,1	14,1	100,0	
Total	205	100,0	100,0		

Source: Data processed by SPSS 26, 2025.

As presented in Tables 4 and 5, the -2 Log Likelihood (-2LL) value at step 0 is 167.121, which decreases to 139.012 at step 1. This reduction of 28.109 in the -2LL value indicates an improvement in the model's fit. In other words, the inclusion of independent variables enhances the explanatory power of the model. Therefore, the regression model used in this study is considered appropriate and well-fitted to the data.

Table 4. Overall Model Fit Test (Block 0)

Iteration History ^{a,b,c}			
		Coefficients	
Iteration		-2 Log likelihood	Constant
Step 0	1	170,820	-1,434
	2	167,163	-1,762
	3	167,121	-1,803
	4	167,121	-1,803

Source: Data processed by SPSS 26, 2025.

Table 5. Overall Model Fit Test (Block 1)

Iteration History ^{a,b,c,d}										
		Coefficients								
Iteration		-2 likelihood	Constant	X1	X2	X3	X4	X5	X6	X7
Step 1	1	154,023	-1,340	1,164	0,538	-0,274	-0,125	-0,675	-0,059	0,027
	2	142,111	-1,746	2,038	1,193	-0,510	-0,237	-1,390	-0,117	0,053
	3	139,536	-1,978	2,391	1,684	-0,588	-0,302	-1,904	-0,148	0,095
	4	139,066	-2,044	2,438	1,813	-0,595	-0,324	-2,082	-0,158	0,136
	5	139,012	-2,063	2,437	1,848	-0,594	-0,334	-2,100	-0,161	0,158
	6	139,012	-2,065	2,437	1,851	-0,594	-0,334	-2,101	-0,161	0,160
	7	139,012	-2,065	2,437	1,851	-0,594	-0,334	-2,101	-0,161	0,160

Source: Data processed by SPSS 26, 2025.

As shown in Table 6, the significance value in the Hosmer and Lemeshow Test is 0.622, which is greater than the significance level of 5% (0.05). This indicates that the research data model is considered to be a good fit and is appropriate for explaining the research variables.

Table 6. Hosmer and Lemeshow test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	6,225	8	,622

Source: Data processed by SPSS 26, 2025.

As indicated by the results in Table 7, the Nagelkerke R Square value is 0.23, suggesting that the independent variables included in this study explain approximately 23% of the variance observed in the dependent variable. The remaining 77% of the variance is attributable to other factors beyond the scope of the current research model.

Table 7. Coefficient of determination (Nagelkerke's R-square)

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	139,012 ^a	,128	,230

Source: Data processed by SPSS 26, 2025.

Furthermore, the model's validity can be assessed using the Omnibus Test, as shown in Table 8. The Chi-Square value of 28,109 exceeds the critical value of 14.067, with the df of 7 independent variables, and a significance level of 0.000, which is below 0.05. This leads to the rejection of H₀, suggesting that the inclusion of the independent variables significantly influences the model, indicating that the model is appropriate or well-fitting.

Table 8. Omnibus test

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	28,109	7	,000
	Block	28,109	7	,000
	Model	28,109	7	,000

Source: Data processed by SPSS 26, 2025.

The results of the logistic regression presented in Table 9 indicate that pressure and arrogance significantly influences financial statement fraud (FSF), as the associated p-value is less than 0.05. In contrast, the factors of opportunity, rationalization, capability, ignorance, and greed do not exhibit a significant effect on FSF, as their respective p-values exceed 0.05.

Table 9. Logistic Regression

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	PRS	2,437	1,182	4,254	1	,039	11,438
	OPT	1,851	1,963	,889	1	,346	6,364
	RTZ	-,594	,474	1,570	1	,210	,552
	CAP	-,334	,459	,532	1	,466	,716
	ARG	-2,101	,777	7,309	1	,007	,122
	IG	-,161	,214	,565	1	,452	,851
	GR	,160	,108	2,197	1	,138	1,174
	Constant	-2,065	,915	5,088	1	,024	,127
a. Variable(s) entered on step 1: PRS, OPT, RTZ, CAP, ARG, IG, GR.							

Source: Data processed by SPSS 26, 2025.

Based on the table, the following logistic regression model is obtained.

$$\text{FSF} = -2,065 + 2,437\text{PRS} + 1,851\text{OPT} - 0,594\text{RTZ} - 0,334\text{CAP} - 2,101\text{ARG} - 0,161\text{IG} + 0,160\text{GR}$$

4.2 Discussion

Pressure on Financial Statement Fraud

Referring to the results of the statistical analysis, the coefficient value for the variable pressure was found to be 2.437, with a significance level (p-value) of 0.039. Since the p-value is less than the conventional threshold of 0.05 ($0.039 < 0.05$), the result is statistically significant. This indicates that pressure has a significant and positive effect on financial statement fraud. Therefore, H1 is accepted. The greater the pressure perceived by management, the higher the potential for financial statement fraud. This pressure can arise when a company faces a decline or instability, prompting management to take any necessary action to restore the company's stability through unethical methods, including fraud. This finding supports agency theory, which suggests that principals place pressure on management to maintain the stability of the company. As a result, management may engage in improper actions, including fraud, to achieve this objective. The increased likelihood of a company engaged in the perpetration of financial statement fraud is reflected in the greater ratio of total asset changes within the company [31]. This is because total assets are an attractive factor for stakeholders, such as creditors or investors, and serve as a basis for their decisions to allocate funds to the company. As a result, this affects the company's capacity to uphold the stability of its total asset. Consequently, this pressure encourages management to take drastic measures, even to the point of manipulating financial statements by inflating asset values, in order to preserve the company's financial stability. These findings are consistent with previous studies in this field [10], [11], [12], [13] and [31].

Opportunity on Financial Statement Fraud

Referring to the results of the statistical analysis, the opportunity variable yielded a coefficient value of -1.851 with a significance level of 0.346, which exceeds the conventional threshold of 0.05 ($0.346 > 0.05$). This result indicates that the opportunity variable does not exert a statistically significant influence on the occurrence of financial statement fraud, thereby suggesting that Hypothesis H2 is not supported. In this study, the opportunity variable was proxied by the level of ineffective monitoring, operationalized through the proportion of independent commissioners relative to the total number of board members. The findings suggest that this proxy does not significantly affect the likelihood of financial statement fraud. This finding does not align with agency theory, which suggests that independent commissioners, appointed by principals, are responsible for overseeing management, and that insufficient monitoring increases the potential for fraudulent financial reporting. The number of commissioners is typically determined by regulation, and companies often comply with these rules. However, compliance with the required number alone does not guarantee the presence of strong internal controls [32]. The success of monitoring by independent commissioners in fulfilling their supervisory role depends more on their competence and experience rather than the number of board members. As such, a greater number of commissioners does not necessarily create an opportunity for financial statement manipulation. The quality of monitoring should also be assessed based on the overall performance of the board in supervising policies and general management activities. These findings are consistent with those of previous studies [17], [4], and [26].

Rationalization on Financial Statement Fraud

Referring to the results of statistical data analysis, a coefficient value of -0.594 was obtained with a significance level of 0.210, which exceeds the standard significance threshold of 0.05 ($0.210 > 0.05$). These results indicate that rationalization does not have a significant effect on the likelihood of financial statement fraud, thereby indicating that hypothesis H3 is not supported. Rationalization, as represented by change in auditor, measured by whether or not there was a change in auditors during a specific period was found to have no substantial effect on the likelihood of financial statement fraud occurring. This finding does not support agency theory, which suggests that auditor turnover increases the risk of conflicts of interest, as agents may seek to appoint auditors who are more aligned with management's interests, thereby facilitating financial statement fraud. In practice, however, auditor changes are not intended to conceal fraud previously identified by the incumbent auditor, but rather occur due to the expiration of the auditor's term in accordance with prevailing regulations. Moreover, auditor rotation may aim to enhance the performance of audit engagements, contributing to the production of higher-quality financial statements that are perceived as more credible [1]. This improvement in reporting quality may increase investor confidence and interest in the company. These findings are consistent with prior studies [10], [1], and [33].

Capability on Financial Statement Fraud

Referring to the results of the statistical analysis, a coefficient value of -0.334 was obtained with a significance level of 0.466. Since this value exceeds the standard significance threshold of 0.05 ($0.466 > 0.05$), the result is not statistically significant. These findings indicate that capability does not have a significant effect on financial statement fraud, and therefore, hypothesis H4 is not supported. Capability, as proxied by the CEO's educational background, measured by whether or not the CEO holds a postgraduate degree or higher was not found to significantly influence the likelihood of financial statement fraud. This result does not support agency theory, which suggests that a higher level of education may enhance a CEO's ability to exploit information asymmetry for personal gain by withholding information from principals to manipulate financial reports. On the contrary, individuals with advanced education tend to possess strong analytical skills and a comprehensive understanding of management strategies, enabling them to address organizational challenges through the implementation of corporate governance practices and the avoidance of involvement in fraudulent financial reporting. This finding is consistent with the results of previous research [1] and [12].

Arrogance on Financial Statement Fraud

Referring the results of the statistical analysis reveal a coefficient value of -2.101 with a significance level of 0.007. As this p-value is below the conventional significance threshold of 0.05 (i.e., $0.007 < 0.05$), the findings indicate that arrogance has a statistically significant negative effect on financial statement fraud, thereby suggesting that hypothesis H5 is not supported. Arrogance, proxied by CEO duality and measured based on the existence of familial relationships between members of the board of directors and board of commissioners, was found to have a negative influence on the likelihood of financial statement fraud. This finding does not support agency theory, which posits that CEO duality may increase the risk of conflicts of interest, whereby the CEO could act arbitrarily for personal gain, especially when supported by ineffective oversight from commissioners who are relatives of the CEO, thus potentially increasing the potential for fraudulent misrepresentation in financial statements. However, the negative relationship observed may be attributed to the effective performance of the board of commissioners in monitoring the CEO's actions, thereby limiting the CEO's ability to abuse their authority for fraudulent purposes. This finding is consistent with the results of prior research [34].

Ignorance on Financial Statement Fraud

Referring to the results of statistical data analysis, a coefficient value of 0.161 was obtained with a significance level of 0.452, which exceeds the standard significance threshold of 0.05 ($0.452 > 0.05$). These findings indicate that ignorance does not have a significant effect on financial statement fraud; therefore, hypothesis H6 is rejected. Ignorance was proxied by insufficient corporate governance training for executive and non-executive directors, measured by the ratio of corporate governance courses attended to the number of board members. The analysis revealed that this variable did not exhibit a statistically significant association with the probability of financial statement fraud. This result does not support agency theory, which suggests that CEOs with inadequate knowledge of corporate governance may create vulnerabilities that can be exploited by perpetrators of financial fraud. In the context of consumer goods manufacturing companies between 2019 and 2023, the lack of adequate training programs for board members did not appear to increase the risk of financial statement fraud. One possible explanation is that the training attended by directors may not have been directly related to fraud prevention. These programs may have focused primarily on theoretical frameworks without addressing practical approaches or techniques for detecting fraudulent activities, thereby limiting their effectiveness in enhancing fraud detection capabilities. This finding is consistent with prior research [15] and [28].

Greed on Financial Statement Fraud

Referring to the results of statistical data analysis, a coefficient value of 0.160 was obtained with a significance level of 0.138, which exceeds the standard significance threshold of

0.05 ($0.138 > 0.05$). These results indicate that greed does not have a significant effect on financial statement fraud; thus, hypothesis H7 is not supported. Greed was proxied by executive remuneration, measured by the ratio of board of directors' remuneration to profit or loss after tax. This finding does not support agency theory, which posits that remuneration may increase agency problems rather than mitigate unethical managerial behavior, as compensation structures may incentivize management to manipulate financial statements to maintain or increase their rewards. However, [35] argues that higher salaries may increase the opportunity cost of engaging in financial fraud. In other words, executives receiving substantial remuneration may be deterred from fraudulent behavior due to the significant financial loss they would incur if discovered and penalized. Furthermore, [24] explains that executive remuneration does not necessarily influence financial statement fraud, as auditors often perceive it as overly general and insufficiently specific to be directly associated with fraudulent behavior. Fraud perpetrators are typically reluctant to link their actions to remuneration, suggesting that fraud may occur regardless of the amount of compensation received. These findings are consistent with those of previous studies [15] and [26].

5. Conclusion

This study seeks to empirically investigate the influence of the elements within the fraud heptagon theory, namely pressure (proxied by financial stability), opportunity (ineffective monitoring), rationalization (auditor changes), capability (CEO's educational background), arrogance (CEO duality), ignorance (insufficient corporate governance courses for executive and non executive directors), and greed (remuneration) on the occurrence of financial statement fraud among consumer goods manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023. The results of the analysis indicate that pressure exerts a positive and significant effect on financial statement fraud, while arrogance has a negative influence. In contrast, the variables representing opportunity, rationalization, capability, ignorance, and greed do not demonstrate a statistically significant impact on financial statement fraud.

Reference

- [1] M. I. Lestari and D. Henny, "Pengaruh Fraud Pentagon Terhadap Fraudulent Financial Statements Pada Perusahaan Perbankan Yang Terdaftar Di Bursa Efek Indonesia Tahun 2015-2017," *J. Akunt. Trisakti*, vol. 6, no. 1, pp. 141–156, 2019, doi: 10.25105/jat.v6i1.5274.
- [2] A. T. Siregar and M. Amirya, "Pengaruh Gender Diversity Dan Efektivitas Komite Audit Dalam Mendeteksi Kecurangan Laporan Keuangan," *JIMAT (Jurnal Ilm. Mbs. Akuntansi) Undiksha*, vol. 15, no. 01, pp. 70–83, 2024, doi: 10.23887/jimat.v15i01.75372.
- [3] S. Azizah and R. Reskino, "Pendeteksian Fraudulent Financial Statement: Pengujian Fraud Heptagon Theory," *J. Akunt. dan Gov.*, vol. 4, no. 1, pp. 17–37, 2023, doi: 10.24853/jago.4.1.17-37.
- [4] V. M. Jannah and A. M. Rasuli, "Pendekatan Vousinas Fraud Hexagon Model dalam Mendeteksi Kecurangan Pelaporan Keuangan," *Stud. Akunt. dan Keuang. Indones.*, vol. 4, no. 1, pp. 1–16, 2021, doi: 10.21632/saki.4.1.1-16.
- [5] M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Corp. Gov. Values, Ethics Leadersh.*, no. 4, pp. 77–132, 1976, doi: 10.4159/9780674274051-006.
- [6] A. A. Ghaisani and S. Supatmi, "Pendeteksian Kecurangan Pelaporan Keuangan menggunakan Model Fraud Diamond," *Portofolio J. Ekon. Bisnis, Manajemen, dan Akunt.*, vol. 7, no. 1, pp. 599–611, 2023, doi: 10.33395/owner.v7i1.1233.
- [7] H. Nadziliyah and N. S. Primasari, "Analisis Fraud Hexagon Terhadap Financial Statement Fraud Pada Perusahaan Sektor Infrastruktur, Utilitas Dan Transportasi," *Account. Financ. Stud.*, vol. 2, no. 1, pp. 21–39, 2022, doi: 10.47153/afs21.2702022.
- [8] ACFE, "Occupational Fraud 2024 :A Report To The Nations," pp. 1–106, 2024.
- [9] C. J. Skousen, K. R. Smith, and C. J. Wright, "Detecting and Predicting Financial Statement Fraud : The Effectiveness Of The

- Fraud Triangle and SAS No.99,” *Corp. Gov. Firm Perform. (Advances Financ. Econ.*, pp. 53–81, 2009, doi: 10.1108/S1569-3732(2009)0000013005.
- [10] T. Achmad, I. Ghazali, and I. D. Pamungkas, “Hexagon Fraud: Detection of Fraudulent Financial Reporting in State-Owned Enterprises Indonesia,” *Economies*, vol. 10, no. 1, pp. 1–16, 2022, doi: 10.3390/economies10010013.
- [11] D. Alfarago, M. Syukur, and A. Maburur, “The Likelihood of Fraud From the Fraud Hexagon Perspective: Evidence From Indonesia,” *ABAC J.*, vol. 43, no. 1, pp. 34–51, 2023.
- [12] W. Azizah, “Can the Fraud Hexagon Components Detect Fraudulent Financial Reporting?,” *Golden Ratio Financ. Manag.*, vol. 4, no. 2, pp. 78–86, 2024, doi: 10.52970/grfm.v4i2.447.
- [13] S. P. Sari and A. Khoiriah, “Hexagon Fraud Detection of Regional Government Financial Statement as A Fraud Prevention on The Pandemic Crisis Era,” *Wacana J. Sos. dan Hum.*, vol. 24, no. 2, pp. 90–97, 2021.
- [14] A. A. Ghaisani and S. Supatmi, “Pendeteksian Kecurangan Pelaporan Keuangan Menggunakan Fraud Pentagon,” *Own. Ris. J. Akunt.*, vol. 7, no. 1, pp. 599–611, 2023, doi: 10.33395/owner.v7i1.1233.
- [15] D. P. I. Satata, I. D. Pamungkas, A. Sumaryati, and B. Minarso, “The Role of Institutional Ownership in Detecting Fraudulent Financial Reporting: Fraud Heptagon Model Analysis,” *Maksimum Media Akunt. Univ. Muhammadiyah Semarang*, vol. 14, no. 1, p. 37, 2024, doi: 10.26714/mki.14.1.2024.37-47.
- [16] M. Alyani, I. Satria, and S. I. Wahyoeni, “The Effect of Fraud Hexagonn on Financial Statement Fraud in Property and Real Estate Sector Companies Listed on The Indonesia Stock Exchange (IDX) in 2017-2021,” *Int. J. Econ.*, vol. 3, no. 2, pp. 83–101, 2023, doi: 10.35814/inquisitive.v3i2.4930.
- [17] D. Setyono, E. Hariyanto, S. Wahyuni, and B. C. Pratama, “Penggunaan Fraud Hexagon dalam Mendeteksi Kecurangan Laporan Keuangan,” *Own. Ris. J. Akunt.*, vol. 7, no. 2, pp. 1036–1048, 2023, doi: 10.33395/owner.v7i2.1325.
- [18] L. Indriaty and G. N. Thomas, “Analysis of Hexagon Fraud Model, the S.C.C.O.R.E Model Influencing Fraudulent Financial Reporting on State-Owned Companies of Indonesia,” *Innov. Econ. Res. J.*, vol. 11, no. 1, pp. 73–92, 2023, doi: 10.2478/eoik-2023-0060.
- [19] R. Aviantara, “The Association Between Fraud Hexagon and Government’s Fraudulent Financial Report,” *Asia Pacific Fraud J.*, vol. 6, no. 1, pp. 26–42, 2021, doi: 10.21532/apfjournal.v6i1.192.
- [20] T. Sihombing and G. E. Panggulu, “Fraud Hexagon Theory And Fraudulent Financial Statement In IT Industry In Asean,” *J. Reviu Akunt. dan Keuang.*, vol. 12, no. 3, pp. 524–544, 2022, doi: 10.22219/jrak.v12i3.23334.
- [21] Crowe, *Why The Fraud Triangle Is No Longer Enough*. Crowe LLP, 2011.
- [22] T. Tarjo, A. Anggono, and E. Sakti, “Detecting Indications of Financial Statement Fraud: a Hexagon Fraud Theory Approach,” *AKRUAL J. Akunt.*, vol. 13, no. 1, pp. 119–131, 2021, doi: 10.26740/jaj.v13n1.p119-131.
- [23] N. C. Situngkir and D. N. Triyanto, “Detecting Fraudulent Financial Reporting Using Fraud Score Model and Fraud Pentagon Theory : Empirical Study of Companies Listed in the LQ 45 Index,” *Indones. J. Account. Res.*, vol. 23, no. 03, pp. 373–410, 2020, doi: 10.33312/ijar.486.
- [24] K. M. Yusof, “Fraudulent Financial Reporting : An Application of Fraud Models to Malaysian Public Listed Companies Being a Thesis submitted for the Degree of Doctor of Philosophy in the University of Hull by Khairusany Mohamed Yusof B . Acc (Honours), Universiti Sain,” *Univ. Hull*, no. August, pp. 1–430, 2016.
- [25] R. A. Djami and M. Murtanto, “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),” *J. Res. Soc. Sci. Econ. Manag.*, vol. 4, no. 1, pp. 85–103, 2024, doi: 10.59141/jrssem.v4i1.701.
- [26] I. D. Pamungkas and S. A. Irwandi, “Detecting fraudulent P nancial reporting : Heptagon fraud model,” vol. 14, no. 2, pp. 153–174, 2024, doi: 10.14414/tiar.v14i2.4523.
- [27] G. Soepriyanto, E. A. Kuncoro, A. E. Zudana, and L. Averine, “Does Executive Compensation Affect Accounting Irregularities?

- Evidence From Listed Firms in Indonesia,” *SAGE Open*, vol. 12, no. 3, pp. 1–13, 2022, doi: 10.1177/21582440221111109.
- [28] I. D. Pamungkas, I. R. A. Oktavianasari, A. N. Jasmine, and U. D. Nuswantoro, “The Role of Audit Committee and Institutional Ownership as Moderating : Analysis Fraud Heptagon in Indonesia,” *WSEAS Trans. Bus. Econ.*, vol. 21, pp. 2665–2677, 2024, doi: 10.37394/23207.2024.21.218.
- [29] R. H. Davidson, “Who did it matters: Executive equity compensation and financial reporting fraud,” *J. Account. Econ.*, vol. 73, no. 2–3, 2022, doi: 10.1016/j.jacceco.2021.101453.
- [30] P. M. Dechow, W. Ge, C. R. Larson, and R. G. Sloan, “Predicting Material Accounting Misstatements,” *Contemp. Account. Res.*, vol. 28, no. 1, pp. 17–82, 2011, doi: 10.1111/j.1911-3846.2010.01041.x.
- [31] M. B. Barezki, L. L. Fuadah, and A. Yulianita, “Relevansi Fraud Hexagon Theory terhadap Kecurangan Laporan Keuangan Pada Sektor Perbankan di Indonesia Tahun 2017-2021,” *J. Inform. Ekon. Bisnis*, vol. 5, no. 3, pp. 927–931, 2023, doi: 10.37034/infec.v5i3.650.
- [32] F. Oktaviany and Reskino, “Financial Statement Fraud: Pengujian Fraud Hexagon Dengan Moderasi Audit Committee,” *J. Bisnis dan Akunt.*, vol. 25, no. 1, pp. 91–118, 2023, doi: 10.34208/jba.v25i1.1799.
- [33] T. Achmad, I. Ghazali, M. R. A. Helmina, D. I. Hapsari, and I. D. Pamungkas, “Detecting Fraudulent Financial Reporting Using the Fraud Hexagon Model: Evidence from the Banking Sector in Indonesia,” *Economies*, vol. 11, no. 1, 2023, doi: 10.3390/economies11010005.
- [34] V. Rostami and L. Rezaei, “Corporate governance and fraudulent financial reporting,” *J. Financ. Crime*, vol. 29, no. 3, pp. 1009–1026, 2022, doi: 10.1108/JFC-07-2021-0160.
- [35] J. M. Rahman and Y. Ying, “The Effects of Corporate Governance and Managerial Compensation on Financial Fraud: Evidence from China,” *Account. Bus. Public Interes.*, pp. 280–296, 2020, doi: 10.2139/ssrn.3739800.