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DETECTION OF FINANCIAL STATEMENT FRAUD USING FRAUD PENTAGON THEORY PERSPECTIVE IN INDONESIA

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Abstract

This research investigates the factors influencing financial statement fraud using the fraud pentagon theory of five factors: pressure, opportunity, rationalization, capability, and arrogance. This study collects the data variable using secondary data. This quantitative study employs logistic regression analysis with E-Views to examine data of twenty four Indonesian-public listed firms on the IDX index during 2012-2020 that the Financial Services Authority has sanctioned. Twenty-four non-fraud firms were identified as a control sample based on size, industry, and period. Thus, there are 48 samples with 192 data observations. This study concludes that rationalization and capability have significantly affected financial statement fraud. However, pressure, opportunity and arrogance do not significantly affect financial statement fraud. This study serves as a caution to firms concerning the need to recognize the possibility of internal fraud. Thus, it raises public understanding of fraud prevention approaches. The findings of the study have implications for practice and theory.

Keywords: Financial Statement Fraud, Indonesian-listed firms, The Fraud Pentagon Theory

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1. Introduction

The intentional fabrication or modification of financial data in a company's financial statements is known as financial statement fraud (Erdoğan and Erdoğan, 2020). It is done to deceive investors, creditors, regulators, or other stakeholders by presenting false or misleading financial figures. Financial statement fraud (FSF) is a significant white-collar offence with major repercussions for the participants and the organization. Hail and Wang (2017) suggest that companies that commit financial statement fraud will result in misrepresenting their financial reporting. According to The Association of Certified Fraud Examiners (ACFE, 2018, 2020), financial statement fraud is the most significant problem for all categories of firms, and it is the most costly kind of fraudulent (among the three categories of fraud: asset misappropriation, corruption, and financial statement fraud). From 1800 to 2009, Hail and Wang (2017) indicate that there was an increasing trend of financial statement fraud cases. However, starting in 2010, most observed nations (except China, Finland, and India) exhibited a decline in financial statement fraud cases. Despite a decreasing trend in financial statement fraud cases, it was reported that the median financial statement fraud loss would increase from $ 700,000 in 2018 to $ 954,000 in 2020 ACFE (2018, 2020).

Many parties, including shareholders, creditors, employees, and other stakeholders, will be significantly impacted by the occurrence of financial statement fraud (Omar et al., 2017; Zainudin & Hashim, 2016). Furthermore, financial statement fraud caused employees to lose their employment, former employees to lose their pensions, and business partners to lose business partners (Roszkowska, 2021). Additionally, financial statement fraud can cause a worldwide economic recession that fails (Aviantara, 2023; Rukmana, 2018). Thus, the evidence proves beyond a reasonable doubt that financial statement fraud is the most damaging offence.

In the past two decades, big multinational companies such as Charles Ponzi, Enron, and WorldCom committed unprecedented FSF. FSF and corporate scandals have also affected Indonesia. The scandals involving PT Garuda Indonesia and PT Jiwasraya are two of the most significant frauds in recent years. PT Garuda Indonesia's financial statement has misrepresented a net profit of $809 thousand (CNN Indonesia, 2019). Consequently, the Indonesian Securities Commission has mandated a restatement of its 2018 financial statements. The restatement resulted in a loss of $175 million for PT Garuda, causing its stock price to collapse (Saragih, 2019). In 2019, PT Jiwasraya had distorted financial records on equity deficits caused by criminal acts of corruption committed by directors for years, resulting in a $1 million loss for consumers and the state (Laucereno, 2022). This phenomenon indicated that financial statement fraud had become a severe issue among corporations deceiving their shareholders and stakeholders.

Globally, prior research has identified several fraud factors derived from the Fraud Triangle Theory on financial statement fraud (Abdullahi et al., 2015; Abdullahi & Mansor, 2015a; Hashim et al., 2020; Lokanan & Sharma, 2018; Skousen et al., 2009; Skousen & Wright, 2011; Said et al., 2017), in Indonesia (Hudayati et al., 2022; Irwandi et al., 2019; Suryani & Fajri, 2022). Furthermore, many studies examine fraud factors and financial statement fraud by applying the Fraud Diamond Theory (Free, 2015; Handoko & Natasya, 2019; Hidajat, 2020; Ozcelik, 2020; Pamungkas et al., 2018; Ruankaew, 2013; Wolfe & Hermanson, 2004). In comparison, other studies used Fraud Pentagon theory to examine the factors related to financial statement fraud (Achmad et al., 2022; Ariyanto et al., 2021; Christian et al.,

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2019; Devi et al., 2021; Nindito, 2018; Pamungkas et al., 2018; Sari et al., 2020; Yusof et al., 2015; Yulianti et al., 2019). Most of these studies used data after the financial statement fraud incidents. Thus, there is limited research on the Fraud Pentagon Theory in Indonesia, utilizing a four-year observation period before the financial statement fraud incidents. This study employs a four-year observation period after the fraud incidents to fill the gaps.

This paper aims to investigate the factors that influence financial statement fraud using the Fraud Pentagon theory. This paper is organized as follows. We discuss fraud financial statements, fraud theories and hypotheses development of the study in section 2. Next, we describe the sample, measurement instruments and analysis in section 3. Then, we present the empirical results in section 4. Finally, section 5 provides a discussion and conclusion.

2. Literature Review and Hypotheses Development

2.1. Defining financial statement fraud

According to Grundfest and Berueffy (1989), the National Commission on Fraud Financial Reporting has defined financial statement fraud as:

'the intentional, deliberate, misstatement or omission of material facts or accounting data which is misleading and, when considered with all the information made available, would cause the reader to change or alter his or her judgment or decision'.

The Association of Certified Fraud Examiners also adopts the above definition. Stolowy and Breton (2004) further explain that financial statement fraud is outside of Generally Accepted Accounting Principles (GAAP). Financial statement fraud is frequently perpetrated through various methods, including inappropriate asset capitalization, accounting record manipulation, and intentional manipulation of financial quantities by recording false expenses and revenues (Nasir & Hashim, 2021). Therefore, financial statement fraud can be considered management deception committed through intentionally misleading financial statements.

2.2. The fraud theories

Donald Cressey, a criminologist whose research concentrates on "trust-violators" individuals, developed and introduced the Fraud Triangle Theory (FTH) in 1953. The fraud triangle theory was the first theory that identified three main fraud factors. According to Donald Cressey, fraud could not be seen immediately by a third party, and a person must have all three factors in their possession to perpetrate fraud. Skousen et al. (2009) measure fraud using pressure, opportunity, and rationalization as proxies of the three risk factors to detect fraudulent activity in financial statements using SAS No. 99. They suggested that fraud scenario usually includes pressure, opportunity and rationalization.

Fraud triangle theory by Cressey (1953) ignored the role of capability. Wolfe and Hermanson (2004) enhance fraud triangle theory by introducing a new factor, capability. They argued that fraud could not occur if it were impossible to commit. This theory is called the Fraud Diamond Theory (FDH). Marks (2012) suggests that the Fraud Diamond theory should be extended by incorporating two human factor-related components: arrogance and competence. These two factors expand the initial fraud theory and are

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currently referred to as the Fraud Pentagon Theory (FPT). Marks (2012) compares the competence factor described in the FPT to the capability factor outlined in the FDT. In addition, arrogance is a proud attitude that makes a person think he/she deserves something, or greed that makes them think company rules and policies do not apply to them.

The fraud pentagon theory is more suitable to be applied in this research than the "fraud triangle theory" and the "fraud diamond theory" because the fraud pentagon theory has a wider variety of fraud scenarios and can be used in actual fraud detection and prevention. However, it is crucial to remember that empirical data and in-depth analysis will determine whether any theory or framework is indeed helpful in explaining fraud.

2.3. Hypothesis development

The leading causes of financial statement fraud by publicly traded companies are economic stress and the need to meet Wall Street projections (Rezaee, 2005). Besides, Omukaga (2021) reveals that its high level of profits makes it possible for management to produce financial statements that “look good” differently. Abdullahi and Mansor (2015b) mention that perceived pressure motivates individuals to act unethically. Furthermore, this type of pressure does not have to be genuine; it only has to be perceived as such. While the perpetrator believed he/she was under pressure, this conviction compelled him/her to commit fraud. In accordance with SAS No. 99, managers are compelled to involve financial statement fraud when economic, industrial, and other factors adversely affect their company’s financial stability and profitability. SAS No. 99 classified some categories of pressure which could arise from financial statement fraud: financial stability, external pressure, personal financial need, and financial targets. Thus, we hypothesized that:

H_1: Pressure (stimulus) significantly affects financial statement fraud.

Further, the perpetrator must simply believe or perceive an opportunity. According to Rezaee (2005), financial statement fraud occurs for various reasons, including when motives and opportunities collide. The opportunities created for managers and shareholders may result in a wealth transfer in their favour (Stolowy & Breton, 2004). Hence, the next hypothesize is:

H2: Opportunity significantly affects financial statement fraud.

According to (Skousen et al., 2009), detecting financial statement fraud through rationalization is challenging. The difficulty arises because the auditor occasionally overlooks the company’s earnings management. Therefore, external auditors must recognize and address risk factors contributing to their audit clients’ fraud. The auditor may express some perspectives about the audited company based on circumstances that exist within it. SAS No. 99 classified financial statement fraud as the audit report for rationalization. That approach argues that, before committing fraud or other unethical conduct, the perpetrator of unethical conduct will frame some moral rationalization (Omukaga, 2021). As such, we propose the following hypothesize:

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H3: Rationalization significantly affects financial statement fraud.

Wei et al. (2017) mention that management can conceal fraudulent activity in accounts with a low probability of detection. However, management, audit committees, boards of directors, and internal and external auditors contribute significantly to ensuring the accuracy of financial reports (Zager et al., 2016). It is the point at which a fraudster recognizes an embezzlement opportunity and instead uses his skill to make it a reality. The capability to commit fraud seems to be the dominant factor in top management fraud (Avortri & Agbanyo, 2020). We proposed:

H4: Capability significantly affects financial statement fraud.

The CEO is first in the group of people involved in conducting financial statement fraud (Wells, 2017). According to Marks (2012), because he/she does not desire to lose their ego, a CEO is more willing to demonstrate his/her status and position in the company to everyone. Arrogance can lead to fraud because it makes the perpetrators feel unattended when they have status and position (Marks, 2012). Skousen et al. (2009) mention that a CEO's accumulation of titles brings him/her to a favourable position to exercise decision-making authority, which may present an opportunity for fraud. Finally, the last hypothesize is:

H5: Arrogance (ego) significantly affects financial statement fraud.

3. Research Methodology

3.1. Population and sample

The study sample consists of 48 Indonesian-listed firms on Bursa Efek Indonesia (IDX), of which 24 companies are categorized as fraud companies, and the remaining 24 are categorized as non-fraud companies. The study selected the sample companies using a purposive sampling technique. The included Fraud firms are Indonesian-listed firms that the OJK has sanctioned for violating the Law of Bapepam No. VIII.G.7. The equalization method of the fraud firms and non-fraud firms is matched-pair design, where a fraud firm is paired with a non-fraud firm based on a fiscal year, industry classification, and company size (Beasley, 1996; Zainudin & Hashim, 2016; Nasir et al., 2018; Omar & Bakar, 2012; Perols & Lougee, 2011; Wei et al., 2017). Thus, the study's final sample involves 48 observations of firms selected based on the criteria mentioned above. The information was obtained for the year when the fraud was identified for the first time (year t) and the three years preceding it (year t-1 to year t-3). Therefore, the time that has passed since the observations is four years. Thus, the research period is four years with 192 data observations.

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3.2. Measurement of instruments

In this research, financial statement fraud is the dependent variable, measured by classifying it as a fraud or non-fraud firm. Companies classified as fraud firms violate the law of Bapepam No. VIII.G.7 regarding financial reporting presentation guidelines and getting sanctioned by the OJK. A matched sample of non-fraud firms is accomplished through matched-pair design. A dummy variable was used to indicate whether the company is a fraud or non-fraud company. A firm is assigned "1" if its financial statement violates OJK rules and "0" otherwise. This study uses five proxies representing five fraud factors of fraud pentagon theory to detect financial statement fraud. The measurements of each proxy are illustrated in Table 1 below.

Table 1. Measurement variables

Category	Proxy	Measurement	Reference
Financial Statement Fraud (Y)			
FSF	FSF	FSF = Firms selected as the fraud firms and non-fraud firms Where: 1 = The fraud firm 0 = The non-fraud firm	Astuti et al. (2015), Beasley (1996), Zainudin and Hashim (2016), Ines (2017), Lokanan and Sharma (2018), Nasir et al. (2018), Omar et al. (2017), Pamungkas et al. (2018), Perols and Lougee (2011) Skousen and Wright (2011), Wei et al. (2017), Yusof et al. (2015)
Pressure/Stimulus			
Financial stability	Assets change (X_1)	A CHANGE = (Total assets $_t$ - Total assets $_{t-1}$)/ Total Assets $_{t-1}$	Avortri and Agbanyo (2020), Lokanan and Sharma (2018), Omukaga (2021), Ozcelik (2020), Skousen et al. (2009)
Opportunity			
Nature of industry	Receivable (X_2)	REC = Receivable $_t$/Sales $_t$ – Receivable $_{t-1}$/ Sales$_{t-1}$	Avortri and Agbanyo (2020), Lokanan and Sharma (2018), Omukaga (2021), Skousen et al. (2009)
Rationalization			
Rationalization	Audit Report (X_3)	AUDREPORT = A dummy variable for an audit opinion Where: 1 = Auditors give an unqualified opinion 0 = Otherwise	Lokanan and Sharma (2018), Skousen et al. (2009)
Capability			
Capability	Independent Board of Commissionaire Independent (X_4)	INDBOC = % of Independent Board of Commissionaire	Indarto and Ghozali (2016), Sari et al. (2020), Wijayani and Ratmono (2020)
Arrogance/Ego			
Arrogance	BOD Picture (X_5)	BODPIC = How frequently BOD's picture appears in the annual report	Pamungkas et al. (2018), Rukmana (2018), Yusof et al. (2015)

4. Result and discussion

The results of testing the hypotheses developed in this study are seen in Table 2 below.

Table 2. Hypothesis test results

Variable	Coefficient	Sig	Result
X_1	0.5939	0.1299	Rejected
X_2	0.0180	0.8884	Rejected
X_3	-3.6219	0.0005	Accepted*
X_4	-3.0423	0.0267	Accepted**
X_5	0.5302	0.1380	Rejected

* Accepted at a significant level of 1%
** Accepted at a significant level of 5%

Table 2 demonstrates that no significant relationship exists between asset change, used as a proxy variable for pressure, and financial statement fraud, as indicated by a p-value of 0.5939 and a ß coefficient of 0.1299. Therefore, the hypothesis H1 is not supported. The result implies that pressure does not significantly contribute to the occurrence of financial statement fraud conducted by management. The result is consistent with Manurung and Hardika (2015), Roden et al. (2016) and Wahyuningrum (2020).

Table 2 shows that variable opportunity proxy by account receivables has no significant effects on financial statement fraud among Indonesian listed firms with a ß coefficient of 0.0180 and p-value of 0.8884. Thus, hypothesis H2 is not supported. This result is consistent with Manurung and Hardika (2015), Roden et al. (2016), and Wijayani and Ratmono (2020). The finding suggests that the opportunity represented by trade receivables does not serve as an encouragement or opportunity for management to engage in financial statement fraud.

Based on the findings shown in Table 2, rationalization has a statistically significant relationship with the financial statement fraud of Indonesian-listed firms. The ß coefficient value is -3.6219, with a p-value of below 0.05. Therefore, hypothesis H3 is supported. This finding aligns with the results of Christian et al. (2019), Sari et al. (2020), and Wijayani and Ratmono (2020). It can be concluded that rationalization made by the management and auditor based on high ethical value can significantly lower the level of audit risk, thus reducing the possibility of financial statement fraud. A low level of integrity displayed by management will result in a higher audit risk and a higher possibility of producing fraudulent financial statements.

The capability variable, proxy by BOC independent, significantly affects financial statement fraud among Indonesian listed firms with a ß coefficient of -3.0423 and p-value of 0.0267 (please refer to Table 2). The significance level is accepted at a level of 5%. As a result, the hypothesis H4 is supported. This finding aligns with Rukmana's (2018) study. The negative coefficient suggests that the presence of the BOC Independent (capability) may have a preventative effect on the occurrence of financial statement fraud.

Lastly, variable arrogance/ego, represented by the frequency of CEO pictures captured in the annual reports, does not significantly affect financial statement fraud among Indonesian listed firms by a ß coefficient estimate of 0.5302 and a p-value of 0.1380. The obtained p-value is greater than the predetermined significance level of 0.05. As a result, the hypothesis H5 is not supported. This finding

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aligns with Achmad et al. (2022), Alfarago et al. (2023), and Harman and Bernawati (2021). The findings of this study indicate that the appearance of CEO pictures in the annual report does not indicate arrogance. The CEO picture serves as an introductory representation of the individual who is primarily responsible for overseeing and managing the firm's operations. Hence, it can be concluded that the arrogance/ego of the CEO has no significant relationship to the occurrence of financial statement fraud.

5. Conclusion

Producing fraudulent financial statements can severely damage the company's image and legitimacy in its stakeholders' eyes. Consequently, it is necessary to identify indicators of financial statement deception. This study investigates the fraud factors which contribute to financial statement fraud in the context of Indonesia. This study concludes that rationalization and capability significantly influence financial statement fraud. However, pressure, opportunity and arrogance/ego have no relationship with financial statement fraud. The result has implications for the pentagon theory as only two fraud factors out of five suggested factors predict financial statement fraud.

For practical implication, this study serves as a caution to firms concerning recognizing the possibility of internal fraud. This research will also raise public understanding of fraud prevention approaches. It is recommended that a company establish a code of conduct and provide ethical training to the management and auditor to increase their ethical value and integrity.

The study has a few limitations. First, the study obtained data from a secondary source, annual reports. Although annual reports are considered reliable data, the data is historical. Future research should consider using primary data to enhance the reliability of the result. Next, the study sample is considered to be small, with 192 observation data only. Furthermore, the study sample involves listed firms in Indonesia only, which limits the generalization of the results to non-listed firms and firms from other countries. Future research should use a bigger sample and extend the study to include companies from other developing countries.

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