Fraudulent Financial Reporting: A Fraud Pentagon Analysis

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ABSTRACT

Objective – The massive and broad impact caused by fraud has made it widely discussed by researchers. Several theories have been developed to explain the cause of fraud. The most recent theory that attempts to explain fraud is pentagon fraud. This study attempts to explain the effect of pentagon fraud on the detection of financial statement fraud in 624 companies listed on the Indonesian stock exchange.

Methodology/Technique – Data from financial statements published in 2018 were analyzed using multiple regression analysis.

Findings – The results of data analysis using E-Views have proven that Pressure, Opportunity, Arrogance and Rationalization have a negative effect on fraudulent financial reporting. However, competence is known to have no significant effect on fraudulent financial reporting.

Novelty – The results suggest that human factors such as pressure, arrogance and rationalization encourage fraudsters to produce fraudulent financial reports. These findings imply that human factors such as pressure arrogance and rationalization are important to be considered in designing any anti-fraud strategy.

Type of Paper: Empirical

Keywords: Fraud Pentagon; Fraudulent Financial Report; Opportunity, Pressure.


JEL Classification: M40, M41, M49.

1. Introduction

Over the past few decades, fraud has been widely discussed by not only researchers, but also auditors, governments and regulators. Fraud has caused huge losses not only to victim organizations, but also related stakeholders such as investors, creditors, employees and customers. As a developing country, Indonesia is one of the most vulnerable victims to fraud.
Based on the report published by ACFE in 2018, Indonesia was the 3rd ranked country with the most fraud cases in the Asia Pacific region. This shows that fraud is a serious problem that deserves extra attention and treatment from the CEOs of business organizations in Indonesia.

According to the Indonesia Fraud Survey Report 2016 published by ACFE Indonesia, there are three types of fraud that are most frequently committed. The most frequently committed fraud in Indonesia is corruption, followed by asset misappropriation and fraudulent financial reports, respectively. Although fraudulent financial reports are the least common type of fraud committed in Indonesia, the loss that is suffered due to fraudulent financial reporting is significant, both financial and non-financial. According to the fraud survey report, the loss that is suffered due to fraudulent financial reporting has now reached up to 10 billion rupiahs. Moreover, fraudulent financial report scandals may harm the company’s reputation and investors’ trust and thus may decrease the company’s shares price.

Efforts to increase fraud prevention and detection continue to be carried out in various ways such as internal control and whistle-blower mechanisms. However, fraud risk management within the company requires company leaders to understand the basic concepts of fraud itself. The first theory that tried to explain the concept of fraud was Cressey’s Fraud Triangle Theory (1950). That theory explains that fraud is committed by someone who has the opportunity, pressure and rationalization for his actions. By understanding these three factors, the company is expected to be able to take better preventive and detection measures. In 2004, Wolfe and Hermanson perfected this theory by adding one more factor, capability. This theory is known as diamond fraud. Wolfe and Hermanson (2004) explain that despite incentives / pressures, opportunities and rationalization, fraud cannot be realized without the capability of the perpetrators. They analogize the opportunity as a door to fraud, incentive / pressure and rationalization to direct the perpetrators towards the door to fraud, but only capability can make the perpetrators actually enter the door of fraud.

Recent developments in the business environment and forms of business organizations have led to changes in management and leadership styles in business organizations. Fluctuations in business cycles, and criminogenic cultures that conflict with perceived social, ethical, and legal norms of behaviour, are correlated with increases in the rate of white-collar crime (Ramamoorti, 2012). This makes the factors in the fraud triangle insufficient in explaining the occurrence of fraud in a company. For this reason, Crowe proposes a new theory called Pentagon Fraud. This theory adds competency and arrogance to the fraud triangle theory. This theory explains that the occurrence of fraud requires competence and arrogance from the perpetrators. He further explains that even though fraud perpetrators saw opportunity and motivation (pressure / incentive) in committing fraud, fraud could not be realized without sufficient competence and a sense of arrogance in the perpetrators. This theory assumes that if the perpetrator is arrogant, the perpetrator will assume fraud will not be detected and therefore fraud can be committed. Prior studies have been conducted to identify the factors that cause fraud (Hanifa & Laksito, 2015; Fimanaya & Syaruddin, 2014; Sihombing & Rahardjo, 2014; Manurung Hardika, 2015). Research that tries to confirm the influence of five factors in the pentagon of fraud on the detection of financial statement fraud are also common (Nindito, 2018; Ulfah, Bawekes, Simanjuntak & Daat, 2017; Nuraina & Wijaya, 2017) however the results are mixed, inconsistent and conducted on companies in certain industries.

This study aims to examine the effect of pentagon fraud factors such as pressure, opportunity, rationalization, competency and arrogance on fraudulent financial reporting. The study was conducted using annual reports published in 2018 of all companies listed on the Indonesian Stock Exchange. This study contributes in two ways. First, this study provides a more comprehensive understanding about pentagon fraud. Unlike prior studies that are conducted only in some certain industry sector, this study uses data from all companies from all different sectors in Indonesia. Thus, a more comprehensive insight about pentagon fraud is expected to be obtained. Second, this study provides evidence that arrogance contributes to fraudulent financial reporting. This result suggests that a profile screening test should be considered before appointing a CEO as an effort to manage fraud risk.
This study is organized as follows: The second section contains a literature review and hypotheses development; the third section describe the research methodology; the fourth section explains results discussions and the fifth section concludes the study.

2. Literature Review

AICPA (2002) defines fraud as “an intentional act that results in a material misstatement in financial statements that are the subject of an audit”. Fraud causes many losses, both for business organization victims, but also for stakeholders such as investors, creditors and employees. One of the most common forms of fraud is fraudulent financial reports. The Treadway Commission (1987, 2) defined fraudulent financial reporting as “intentional or reckless misconduct, whether act or omission, that results in materially misleading financial statements.” It may entail gross and deliberate distortion of corporate records as well as the misapplication of accounting principles. Fraudulent Financial Reporting is different from earning management practice, because fraudulent financial reporting is an unethical action which is more detrimental than earnings management.

The increasing number of fraud cases and scandals mean that fraud is a hot topic among researchers. Fraud has been studied from many different perspectives ranging from fraud detection (e.g., Cleary & Thibodeau, 2005; Hoffman & Zimbelman, 2009), fraud risk management (Apostolou et. al., 2001; Chen et. al., 2015; Hess & Cotrell, 2015), fraud risk assessment, fraud and corporate governance to fraud risk factors. Even though it has been widely discussed and researched, fraud risk factor is rarely discussed in depth (Davis & Pesch, 2013).

Most prior researches on fraud risk factors focus on fraud triangle, however the theory of fraud triangle has grown and developed significantly (Dormeney et. al., 2012). Prior studies on fraud risk factors in the fraud triangle use a variety of proxies that considered representing three factors in the fraud triangle (pressure, opportunity and rationalization). Skousen, Smith and Wright (2009) describe five proxies for pressure and two proxies for opportunity. They conclude that asset growth, effect of finance, free cash flow, inside ownership and management ownership are predictors for pressure. While independence of audit committee and CEO and chairman being held by the same position are predictors for opportunity. Further analysis shows that pressure and opportunity affect the propensity of fraudulent financial reporting. Lou and Wang (2009) use analyst forecast error and directors pledged ratio to proxy pressure and found that these variables affect fraudulent financial reporting. Further, they also found that sales related party transaction serve as proxy for opportunity affect fraudulent financial reporting. Finally, Lou and Wang (2009) also confirm that the effect of earnings restatement and auditor changes serve as a rationalization proxy on fraudulent financial reporting.

As more fraud cases yield detrimental losses, some researchers believe that fraud risk factors on Fraud Triangle may not fully capture the antecedents to fraud. Thus, Wolfe and Hermanson (2004) improve the fraud triangle by adding one more factor, capability. They believe that to commit fraud, the perpetrators need capability to exercise the fraud. They analogize opportunity to opening the door to commit fraud, pressure and rationalization draw perpetrators closer to the door and capability enable perpetrators to enter the door. Prior research has been conducted to investigate whether capability affects fraudulent financial reporting, such as Indarto and Ghozali (2016) who use independent board of commissioners as a proxy for capability. The study results show that capability is proxied by independent board commissioners which affects fraudulent financial reporting.

The development of global business has had an enormous impact on companies. Changes occur not only in products and business processes, but also in the organizational structure of companies and company management. This change motivated Jonathan Marks, partner of Crowe, to develop Crowe's Pentagon Fraud. Crowe's Pentagon fraud is a development of the fraud triangle theory, which adds two new elements to the fraud triangle, namely competence and arrogance. According to Crowe (2011), 70% of perpetrators have an
arrogant characteristic, and therefore human factors such as arrogance need to be considered in efforts to prevent fraud.

Several studies have been conducted to investigate the effect of pentagon fraud on fraudulent financial reports. Prior research was conducted among companies in Malaysia (Yusof, Khair & Simon, 2015), in financial and banking companies (Tessa & Hartono, 2016; Apriliana & Agustina, 2017) as well as in manufacturing companies (Akbar, 2017) and in state owned enterprises (Herviana, 2017). Although there have been many studies on the effect of pentagon fraud on fraudulent financial reports, the results have not been able to provide a comprehensive conclusion. Therefore, this study was conducted to determine the effect of the pentagon fraud on fraudulent financial reports on all companies listed on the Indonesian Stock Exchange. The results of this study are expected to contribute in providing more comprehensive conclusions on the topic of pentagon fraud.

2.1 Pressure and Fraudulent Financial Reporting

Pressure refers to a stressful need that happens to a fraudster that motivates him to commit fraud (Singleton & Singleton, 2010: 44). Pressure that motivates someone to commit fraud can be in the form of financial pressure or non-financial pressure. According to Albrecth (2008, 2010), financial pressure can include personal financial losses, falling sales, inability to compete with other companies, greed, living beyond one's means, personal debt, poor credit, the need to meet short-term credit crises, inability to meet financial forecasts, and unexpected financial needs. In this study, financial stability serves as proxy for pressure. The absence of financial stability increases pressure to perpetrators and thus leads to perpetrators committing fraud. Skousen, Smith and Wright (2009), Kassem and Higson (2012) and Lou and Wang (2009) found that financial stability affects fraudulent financial reporting. They found that financial instability that is showed by rapid growth of asset affects fraudulent financial reporting. Based on the above, the following hypothesis is proposed:

H1: Pressure affects fraudulent financial reporting.

2.2 Opportunity and Fraudulent Financial Reporting

Opportunity is often associated with low internal control in a company. Perpetrators see low internal control as an opportunity to commit fraud (Dorminey, et. al., 2012). In addition to low internal control, the opportunity also occurs if perpetrators feel they can use their power or position to commit fraud. In this study, opportunity is proxied using the quality of external auditors. It is argued that using a good quality external auditor will decrease the propensity of fraudulent financial reporting, since good quality auditors may detect fraud easily. Prior research confirms the effect of opportunity, that is proxied by external auditor quality, on fraudulent financial reporting. Amara, Amar and Jarbour (2013), Lennox and Pittman (2010), Indarto and Ghozali (2016) and Wells, (2001) have found that probability proxied by external audit quality affects fraudulent financial reporting. Based on the above, the following hypothesis is proposed:

H2: Opportunity affects fraudulent financial reporting.

2.3 Rationalization and Fraudulent Financial Reporting

To justify one’s action to commit fraud, fraud perpetrators must rationalize their actions. The rationalization used by fraud perpetrators is usually related to their circumstances. The rationalization made by the perpetrators draws them to commit fraud. In this study, rationalization is proxied by change of auditors. A change of auditor is usually done to maintain the independence of the auditor. When this happens, perpetrators cannot rationalize their actions, since their action will be detected by the new independent auditor. Thus, it can be inferred that rationalization, proxied by changes in auditor, affect fraudulent financial
reporting. Prior research has proven this, including Lou and Wang (2009) who found that a change of auditor affects fraudulent financial reporting in Taiwan, Indarto and Ghozali (2016) and Yusuf, Khair and Simon (2015). Based on this, the following hypothesis is proposed:

H3: Rationalization affects fraudulent financial reporting.

2.4 Competence and Fraudulent Financial Reporting

Competence in exercising fraud is related to the ability to conceal the fraud action. In this study, competence is proxied by changes of director. When there is no change of directors in a company, directors who commit fraud have the competence and capability to conceal their action and probably remove any evidence of their fraud. Thus, it is argued that competence, proxied by changes of directors, affects fraudulent financial reporting. Prior research has been conducted on this topic, including Akbar (2017) and Husmawati et. al., (2017) who found that competence, proxied by changes of director, affects fraudulent financial reporting. Based on the above, the following hypothesis is proposed:

H4: Competence affects fraudulent financial reporting.

2.5 Arrogance and Fraudulent Financial Reporting

Ramamoorti and Olsen (2007) argue that fraud is a human endeavor, involving deception, purposeful intent, intensity of desire, risk of apprehension, violation of trust, rationalization, etc. Hence, it is important to understand the psychological factors that might influence the behavior of fraud perpetrators. Arrogance is a personal characteristic that is often negatively associated. Arrogance or lack of conscience is an attitude of superiority and entitlement or greed on the part of a person who believes that internal controls simply do not apply to them (Crowe, 2011). Someone with a high degree of arrogance always believes that they are invincible (Johnson, 2010). Someone with high arrogance also believes that their every action is something that is acceptable (Silverman, et. al., 2012). Fraud perpetrators who have an arrogant nature have a high level of confidence to successfully fool the company's internal control system. Fraud perpetrators with high arrogance believe that their actions will not be detected. Tessa and Harto (2016) and Yusof, Khair and Simon (2015) found that arrogance affects fraudulent financial reporting significantly. Thus, based on this argument, the following hypothesis is proposed:

H5: Arrogance affects fraudulent financial reporting.

3. Research Methodology

The population in the present study is all companies listed on the Indonesian Stock Exchange. The number of samples of this study was 624 companies. The sample selection method used is purposive sampling. The criteria used in this study include: 1. samples to be taken in the study are all companies listed on the Indonesia Stock Exchange. 2. samples report company annual report 2018.

3.1 Dependent Variable

The dependent variable in this study is Fraud Financial Reporting. Fraud Financial Reporting in this study was proxied by earnings management. Earning management is measured using a modified Jones model as follows:

\[ TACit = Niit - CFOit \]  
\[ TACit/Ait-1 = \beta1/(1/Ait-1)+\beta2(\DeltaRevit/Ait-1)+\beta3(PPEit/Ait-1)+\varepsilon \]  
\[ NDAit = \beta1/(1/Ait-1)+\beta2(\DeltaRevit/Ait-1-\DeltaRecit/Ait-1)+\beta3(PPEit/Ait-1)\]  
\[ DAit = TACit/Ait-NDAit \]

3.2 Independent Variable
The independent variables in present study are pressure, opportunity, rationalization, competence and arrogance. Pressure is proxied using financial stability. Financial stability is measured by dividing the changes of total assets with total assets in the previous year. Opportunity is proxied using the quality of external auditors. The quality of the auditor is measured using a dummy variable, 2 is given for a company that uses Big 4 Auditor and 1 is given for company that uses a non-Big 4 Auditor. Rationalization is proxied using the changes of auditor. A dummy variable is used to measure rationalization. 2 is given when there is a change in auditor during 2018, and 1 is given when there is no change in auditor during 2018. Competency is proxied by changes in director. A dummy variable is used to measure competency. 2 is given when there is a change in director during 2018, and 1 is given when there is no change in director during 2018. The measurement of arrogance is adopted from Yusof, Khair, and Simon (2015). The number of pictures of the CEO in annual report was used to measure arrogance.

3.3 Hypotheses Testing Analysis

The hypotheses testing analysis used in present study was multiple regression analysis using E-Views. The data analysis consists of normality testing and classical regression assumption testing, which were conducted prior to the hypotheses testing analysis. The following model is proposed:

\[
Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e_i,
\]

where: \( y \) = fraudulent financial report; \( x_1 \) = pressure; \( x_2 \) = opportunity; \( x_3 \) = rationalization; \( x_4 \) = competence; \( x_5 \) = arrogance

4. Results

Prior to the hypothesis’s analysis, a classical regression assumption test should be done to ensure that model is linear and unbiased. In this study, we conducted four types of classical regression assumption tests, which are normality test, autocorrelation test, multicollinearity test and heteroscedasticity test. A normality test is done by looking at the probability value of Jarque-Bera (JB). Based on normality testing using E-Views, it is known that the magnitude of the probability value on JB is 0.064109, which is greater than 0.05, thus it can be concluded that the regression model meets the normality assumption. Based on the results of the analysis of autocorrelation using E-Views, it appears that the value of the F-statistical probability Obs. is 1,0000, which is > 0.05, so it can be concluded that the above model is free from serial correlation problems. The results of heteroscedasticity analysis using E-views obtained the value of Obs. *R Squared 0.4843, probability X2> 0.05, meaning it can be concluded that the above model does not contain heteroscedasticity. The results of multicollinearity testing using E-views resulted VIF values <10 for all variables. Therefore, it can be concluded that there is no multicollinearity problems in the model.

Table 1. Hypotheses Testing Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-3.410597</td>
<td>2.929792</td>
<td>-1.164109</td>
<td>0.0277</td>
</tr>
<tr>
<td>PRESSURE</td>
<td>-7.665130</td>
<td>2.391550</td>
<td>-3.205089</td>
<td>0.0125</td>
</tr>
<tr>
<td>OPPORTUNITY</td>
<td>-1.588377</td>
<td>1.249683</td>
<td>-1.271024</td>
<td>0.0239</td>
</tr>
<tr>
<td>RATIONALIZATION</td>
<td>-3.916017</td>
<td>1.836331</td>
<td>-2.132522</td>
<td>0.0565</td>
</tr>
<tr>
<td>COMPETENCE</td>
<td>3.309385</td>
<td>1.607165</td>
<td>2.059145</td>
<td>0.0735</td>
</tr>
<tr>
<td>AROGANCE</td>
<td>-0.947293</td>
<td>0.602986</td>
<td>-1.571005</td>
<td>0.0154</td>
</tr>
</tbody>
</table>

Adjusted R-Squared | 0.581744  
F-Statistics       | 4.616289  

Resource: Data analysis E-Views 2019
In this study, five hypotheses were proposed which were analyzed using E-Views 2019. The first hypothesis presented is that pressure (financial stability) affects fraudulent financial reporting. From the hypothesis testing analysis results, the p value of pressure is equal to 0.0277 which is smaller than 0.05 as a critical value, and thus the first hypothesis is accepted. The second hypothesis states that opportunity (quality of external auditor) affects fraudulent financial reporting. Based on the hypotheses test analysis results, the p value of opportunity is 0.0239 which is smaller than 0.05 as a critical value. Thus, the second hypothesis is accepted. The third hypothesis is that rationalization (changes in auditors) affects fraudulent financial reporting. From the hypothesis testing results, the p value of rationalization is 0.0565 which is smaller than 0.05 and thus the third hypothesis is accepted. The fourth hypothesis states that competence affects fraudulent financial reporting. Based on hypothesis testing analysis results the p value for competence 0.0735, which is higher than the critical value of 0.05. Thus, the fourth hypothesis is rejected. Finally, the fifth hypothesis states that arrogance affects fraudulent financial reporting. The p value for arrogance is 0.0154, which is smaller than the critical value of 0.05. Thus, the fifth hypothesis is accepted. The regression analysis shows that 58.8% of the independent variables explain the dependent variable, the remaining 41.1% is explained by variables outside the model.

5. Discussion

The hypotheses testing analysis results suggest that pressure, proxied by financial stability, affects fraudulent financial reporting. Consistent with Skousen, Smith and Wright (2009), the research results suggest that financial instability will increase the likelihood of fraudulent financial reporting. The hypothesis analysis results prove that opportunity, proxied by external audit quality, affects fraudulent financial reporting. A good quality external auditor will be able to detect fraud and thus decrease the prevalence of fraud. The results also indicate that fraud is more likely to occur in a company with a low-quality external auditor. Based on the hypothesis testing analysis, rationalization, proxied by change of auditor, is proved to affect fraudulent financial reporting. Auditor change will maintain external auditor’s independence and thus will not give the perpetrator rationalization to commit fraud.

This is consistent with Lou and Wang (2009) and Roden, Cox and Kim (2016) who found that rationalization, proxied by auditor change, affects fraudulent financial reporting. The hypothesis testing analysis indicates that arrogance affects fraudulent financial reporting. It is proved that higher arrogance may result in higher propensity to commit fraudulent financial reporting. The result is consistent with Apriliana and Agustina (2017), Tessa and Harto (2016) and Yusof (2016) who conclude that arrogance affects fraudulent financial reporting positively.

The hypothesis testing analysis however fails to provide evidence that competence has a significant effect on fraudulent financial reporting. This result is consistent with Akbar (2017) and Tessa and Harto (2016) who found that competence does not affect fraudulent financial reporting. Changes in directors, as a proxy for competence, may not affect fraudulent financial reporting because there are other reasons behind the changing of directors beside fraud. Changing directors or management turnover may occur simply due to performance improvement.

6. Conclusion

This study aims to determine the effect of pentagon fraud, which consists of pressure, opportunity, rationalization, competence and arrogance, on fraudulent financial reports. Using secondary data obtained from the 2018 financial statements of 624 companies listed on the Indonesian Stock Exchange, a multiple regression analysis was conducted. The results of the regression analysis using E-Views show that pressure, opportunity, rationalization and arrogance have an influence on fraudulent financial reports. Meanwhile, not enough evidence was found for the effect of competence on fraudulent financial reports. From the results of the study it can be implied that in order to prevent fraud, companies need to have a strong internal control.
system to minimize opportunities for fraud. Meanwhile, an evaluation of employee characteristics can be done to prevent people with arrogance from taking advantage of an opportunity to commit fraud. Future research may consider other measures or proxies to measure variables of pentagon fraud.

References


