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**ANALYSIS OF FRAUD PENTAGON TO DETECTING CORPORATE FRAUD IN INDONESIA**

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**Abstract**

The purpose of this study is to analyze empirically by using secondary data on the possibility of corporate fraud by using the theory of fraud pentagon approach. The research model in this study tests using the ordinary least square (OLS) analysis method. A total of 310 company data were collected which consisted of financial data and other supporting data published by companies listed on the Indonesia Stock Exchange in the range of 2012 to 2017. The result suggested the fraud pentagon has a significant influence on corporate fraud. This study provides empirical evidence that fraud pentagon theory can be investigated for its effect on corporate fraud by only using secondary data that is available and freely accessed by the public. This finding can make it easier for interested parties to carry out their own analysis of the possibility of the occurrence of corporate fraud in day to day economic activities. The empirically tested research model in this study, namely the fraud pentagon, should provide a comprehensive understanding of practitioners, academics, government agencies and the general public in analyzing the topic of corporate fraud.

**Key words:** Corporate fraud, fraud pentagon, Beneish M-Score, F-Score, Corporate Governance.

**1. Introduction**

One of the most well-known cases of corporate fraud was Enron Corporation in 2001. The bankruptcy of Enron Corporation caused enormous losses to stakeholders. Investors suffered losses of tens of billions of dollars due to a decline in stock prices from US \$ 90.75 per share in mid-2000 to US \$ 0.40 per share at the end of 2001. Coupled with the negligence of Arthur Andersen's public accounting firm which is one of the largest public accounting firms in the world in carrying out their duties as external auditors of Enron Corporation. This caused public distrust of the stock market, which eventually prompted the United States government to issue the Sarbanes-Oxley Act in 2002 to improve the accuracy and reliability of the company's financial statement reporting. This situation has prompted the development and implementation of guidelines on mechanisms and processes in controlling and managing companies known as good corporate governance.

The importance of implementing good corporate governance can be seen from the report from Pricewaterhousecoopers (2016) which reports that globally, 44% of companies think law

enforcement agencies do not have sufficient resources to eradicate economic crime and allow the obligation to eradicate these crimes to be their own responsibility. This fact again proves the importance of implementing good corporate governance to help companies anticipate and prevent crimes that can harm the company both financially and non-financially.

Theoretically and from conclusions on statistical data and/or surveys conducted by researchers and experts (Pricewaterhousecoopers, 2016), it has been proven that the implementation of corporate governance is very important in helping companies to detect corporate fraud. However, in its implementation, corporate governance has proven to be ineffective in reducing the frequency of corporate fraud occurring within the company. This is evidenced by the increasing frequency and total losses suffered by companies in reports published by the world's leading public accounting firms (Pricewaterhousecoopers, 2016& Dijker Otte Binder/BDO, 2017).

Corporate fraud does not only occur in developed countries, but also occurs in developing countries, as well as countries in the Asia Pacific region, the majority of which are developing countries. Based on the results of a study published by Pricewaterhousecoopers (2016), the average global corporate fraud incidence increased from 34% in 2011 to 37% in 2014 and decreased slightly to 36% in 2016. Where in 2014, the percentage the incidence of corporate fraud in countries in the Asia Pacific region increased to 32% from 31% in 2011. In the category of emerging eight countries (including Brazil, China, India, Indonesia, Mexico, Russia, Turkey and South Africa), corporate incidence rates fraud increased by 5% compared to 2011 to 40% in 2014. The results of this survey indicate that the incidence of corporate fraud both globally and specifically in Indonesia has increased from 2011 to 2014.

Every company, both a private company and a state-owned enterprise, has the same risk of the occurrence of corporate fraud that can cause enormous losses and harm many parties. Companies that experience large-scale corporate fraud cases on a large scale can experience a drastic decline in company performance, not to mention significant legal costs and a decrease in investor confidence in the capital market. A survey conducted by the BDO (2017), the average value of losses reported in the case of corporate fraud increased 35% from £ 2.9 million in 2015 to £ 3.9 million in 2016. The value of corporate fraud in the taxation sector in 2016 it increased 220% compared to 2015 and included 69% of the total value of corporate fraud in 2016.

Considering the magnitude of the losses caused by corporate fraud and its impact on the economy in general, many regulations have been prepared by government agencies and regulators who have an interest in anticipating and preventing the occurrence of corporate fraud. For example, for example in the United States there is U.S., the Foreign Corrupt Practices Act (FCPA) in 1977, the Organization for Economic Co-operation and Development Anti-Bribery Convention in 1997, U.S. Sarbanes-Oxley Act in 2002. In the UK there was the Proceeds of Crime Act (POCA) in 2002 and the Serious Crimes Act in 2007. Indonesia as a developing country with a relatively high level of corruption has also set several rules governing practice corporate fraud in Indonesia, such as Act No. 28 of 1999 concerning the implementation of a

clean and free country from corruption, collusion and nepotism, Act No. 30 of 2002 concerning the corruption eradication commission and Act No. 8 of 2010 concerning money laundering.

One of the earliest theories that tried to detect fraud with a behavioral approach from fraud perpetrators was the theory of fraud triangle proposed by a criminologist named Donald Cressey which began in 1950. Cressey (1953) finally put forward his theory of fraud triangles in his book entitled *Other People's Money: The Social Psychology of Embezzlement*. Over time, the theory of fraud triangle proposed by Cressey (1953) was used and developed by other researchers. The latest development of the theory of fraud triangle was carried out by Marks (2012) who put forward the theory of fraud pentagon. This research uses the latest perfection of fraud theory, which is fraud pentagon theory, to detecting the occurrence of corporate fraud in Indonesia.

## **2. Literature Review and Hypothesis Development**

Research on fraud pentagon is still a new topic in Indonesia. Researchers who have conducted research on pentagon fraud in Indonesia include Aprilia (2017), Apriliana and Agustina (2017), Danuta (2017), and Puspitha and Yasa (2018). Apriliana and Agustina (2017) examined 157 manufacturing companies listed on the Indonesia Stock Exchange that were registered from 2013 to 2015. The hypothesis analysis used was logistic regression analysis which was used to examine the effect of the fraud pentagon on corporate fraud. In the same year, Aprilia (2017) and Danuta (2017) also conducted research on the fraud pentagon. Aprilia (2017) conducted an analysis of fraud pentagon using a sample of 50 companies listed on the Indonesia Stock Exchange which were registered from 2010 to 2015 and have ASEAN CG titles. In her research, Aprilia (2017) used the Beneish M-Score indicator to measure corporate fraud variables. This is different from research on pentagon fraud conducted by Danuta (2017). Danuta (2017) conducts research using a qualitative case study method at the Inspectorate of one of the governments in the Yogyakarta region that applies e-procurement-based public services. In his research, Danuta (2017) focused the analysis on 2 (two) new variables in the fraud pentagon, which are arrogance and capability.

### **2.1 The Effect of Pressure on Corporate Fraud**

Pressure has a variety of meanings, namely a situation in which a person feels pressured/depressed and a severe condition when someone is facing difficulties. Both of these meanings indicate that pressure can be a motivation for someone to take action. According to ACPAI (2019) in SAS No. 99, there are four types of conditions that commonly occur at pressures that can cause fraud. These conditions are external financial stability, personal financial need, and financial targets.

Hou and Moore (2010) state that companies that do corporate fraud have poor financial conditions compared to companies that do not do corporate fraud. This forces companies that have poor financial conditions and require large amounts of funds in order to improve

performance to conduct corporate fraud. By manipulating financial statements so that they display good conditions, companies can easily get "injections" of fresh funds from external investors at a relatively lower cost.

According to SAS No. 99 (ACPAI, 2019), managers face pressure to conduct financial statement of fraud when financial stability is threatened by the state of the economy, industry, and the situation of the operating entity. Financial stability is a condition that describes the condition of the company's financial instability (Skousen, Smith, & Wright, 2009). Management often gets pressure to show that the company has been able to manage assets well so that the profits generated are also large and will later generate high returns for investors. For this reason, management utilizes financial statements as a tool to cover up poor financial stability by committing fraud. Research conducted by Skousen *et al.* (2009) shows that the percentage change in total assets has a positive effect on financial statement fraud.

Based on the results of Mulford and Comiskey (2011) research, the percentage change in total assets indicates the existence of fraud in financial statements, because of the high percentage change in total assets as a way to show the company's earnings power and a stronger financial position. Based on the theory and from the results of previous research, the company's financial stability can be one of the factors that can be used to detect fraudulent financial statements.

**H1: Pressure has a significant effect on the occurrence of corporate fraud.**

## **2.2 The Effect of Opportunity on Corporate Fraud**

Opportunity is a situation or condition that allows fraud. Opportunities occur because of weaknesses in internal control, ineffectiveness of management oversight, or abuse of position or authority. ACPAI (2019) in SAS No.99 states that opportunities in fraudulent financial statements can occur in three categories of conditions. These conditions are the nature of industry, ineffective monitoring, and organizational structure.

Brazel, Jones, and Zimbelman (2009) conducted research on the relationship between independent members on the board of directors of corporate fraud. The results of his research found that increasing the number of independent members on the board of directors would reduce the possibility of corporate fraud. In this case, there is a significant relationship between the two variables.

Fraud can be minimized one of them by a good supervision mechanism. The audit committee is believed to be able to increase the effectiveness of corporate supervision. Research conducted by Skousen *et al.* (2009) show that the proportion of independent audit committee members negatively affects fraudulent financial statements.

**H2: Opportunity has a significant effect on the occurrence of corporate fraud**

**2.3 The Effect of Rationalization on Corporate Fraud**

Rationalization is an important element in the occurrence of fraud, where the perpetrator seeks justification for his actions. Rationalization is the part of the fraud triangle that is the most difficult to measure. For those who are used to being dishonest, it may be easier to rationalize cheating. The perpetrators of fraud always seek rational justification to justify their actions (Diaz, 2013).

The behavior of top management in relation to the financial reporting process is a critical factor in assessing the possibility of fraudulent financial reporting. If the CEO and other top management are indifferent or unconcerned about the process of preparing financial statements, financial statements containing fraud will be very likely. Poor management character and weak organizational culture can also be risk factors for creating a justification for financial reporting fraud (Hery, 2017). According to ACPAI (2019) in SAS No. 99 there are two conditions that commonly occur in rationalization, which are auditor switch and audit opinion.

**H3: Rationalization has a significant effect on the occurrence of corporate fraud.**

**2.4 The Effect of Capability on Corporate Fraud**

According to Abdullahi, Mansor, and Nuhu (2015) the longer the position of a CEO (chairman of the board of directors), the greater the influence of the CEO and can run the company even by overstepping the authority of the board of directors. Abdullahi *et al.* (2015) also stated that long-serving CEOs had a greater influence than the newly appointed CEO. CEO capability that is too large will lead to the practice of collusion and misuse of company assets.

Wang, Chen, Chin, and Zheng (2017) in his research also found something similar. In his research, Wang *et al.* (2017) find that the CEO's influence that is too large in the board of directors will lead to centralization of power. The centralization of large powers in the CEO will affect the performance of the audit committee and the company's internal auditors. This causes the possibility of corporate fraud to be high in making decisions about the company's operational and financial activities.

**H4: Capability has a significant effect on the occurrence of corporate fraud.**

**2.5 The Effect of Arrogance on Corporate Fraud**

The study of Schrand and Zechman (2012) found that a high level of confidence from a CEO can lead to mistakes in making investment decisions and corporate funding decisions. With the decline in company performance due to errors in the decisions that have been made, the company's CEO will be forced to manipulate the company's financial statements to cover up the mistakes he has made.

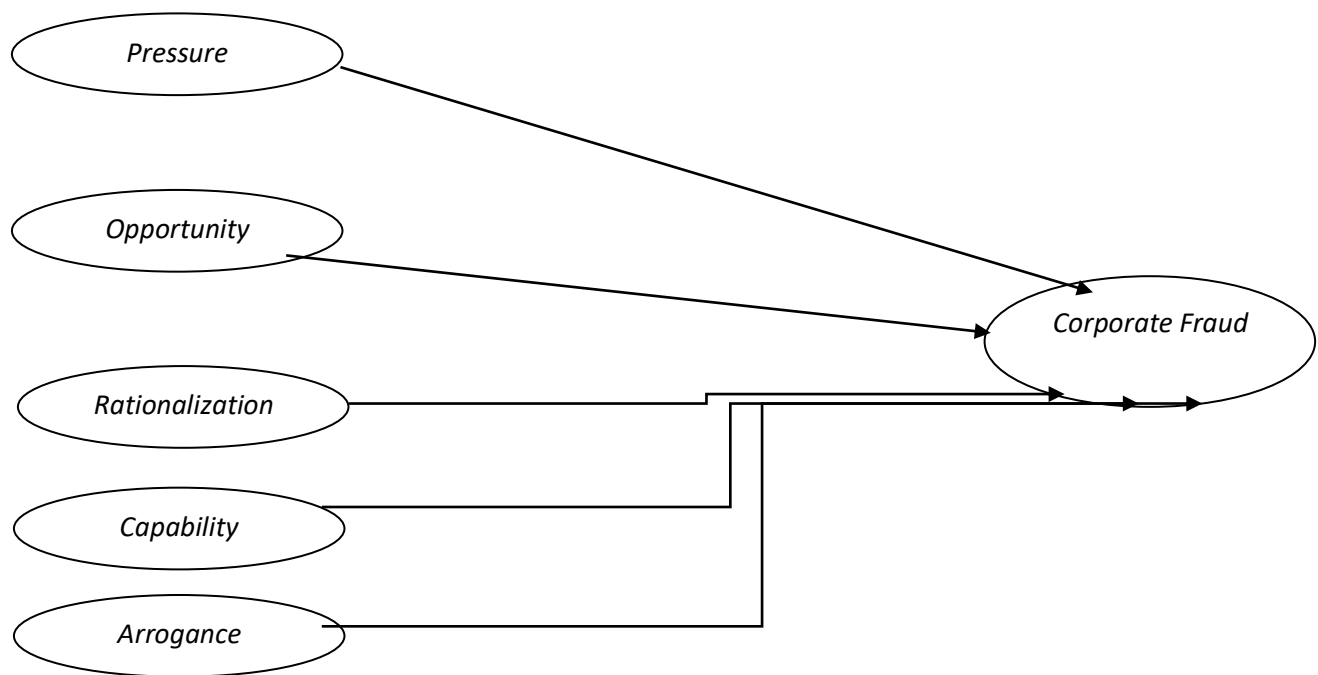
Wu, Johan, and Rui (2014) in their research found that companies that have a political connection which is one indicator of arrogance measurement have a smaller possibility of being prosecuted in the event of corporate fraud. Wang *et al.* (2017) in his research concluded that

companies led by CEOs who have a high level of arrogance can weaken management's ability to implement good corporate governance. From the research of Wang *et al.* (2017) and Wu *et al.* (2014), it can be concluded that the existence of arrogance can cause companies not to be afraid to do corporate fraud because the company believes that the company's actions will not be discovered by the authorities.

Sarpong, Sajdakova, and Adams (2019) in their research found that CEOs who have a high level of self-confidence will lead to an arrogant company leadership style. A high level of arrogance will cause no regret from the CEO of the company when conducting fraud activities. The results of the same study were also obtained in research conducted by Yeung and Shen (2019). In his research, Yeung and Shen (2019) also found that CEOs with high arrogance attitudes tended to be more courageous in manipulating financial statements to get better financial report results.

**H5: Arrogance has a significant effect on the occurrence of corporate fraud.**

Figure 1 below is the picture of the conceptual framework in this study. This conceptual framework illustrates the effect of independent variables and moderating variables on the dependent variable with a sample of companies listed on the Indonesia Stock Exchange.



**Figure1. Conceptual Framework**

**3. Research Methodology**

Based on the objectives of the study, this study can be classified as a basic research that uses a deductive approach. This study uses hypotheses as guidelines and directions to determine the research methods used in fact testing (Schindler, 2018). This study was designed in a comparative causal form and using cross sectional panel data (Schindler, 2018). The populations in this study are companies listed on the Indonesia Stock Exchange. The sampling method uses purposive sampling method. The operational definition of variable and its indicator used in this research were as follow:

**Tabell.Operational Definition of Variable**

No	Variable	Indikator	References
1	Pressure	Financial Stability	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
		External Pressure	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
		Personal Financial Needs	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
		Financial Target	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
2	Opportunity	Ineffective Monitoring	Hasnan <i>et al.</i> (2013); Lokanan & Sharma (2018)
		Nature of Industry	Skousen <i>et al.</i> (2009); Wang <i>et al.</i> (2017)
		BOD Turnover	Abdullahi <i>et al.</i> (2015); Jia <i>et al.</i> (2009)
		Multiple Directorship	Hasnan <i>et al.</i> (2013)
3	Rationalization	Auditor Switch	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
		Audit Opinion	Lokanan & Sharma (2018); Skousen <i>et al.</i> (2009)
		Related Party Transaction	Abdullahi <i>et al.</i> (2015); Hasnan <i>et al.</i> (2013)
		Founder's on Board	Hasnan <i>et al.</i> (2013)
4	Capability	CEO Tenure	Abdullahi <i>et al.</i> (2015); Wang <i>et al.</i> (2017)
		CEO Age	Abdullahi <i>et al.</i> (2015)
		CEO Educations	Abdullahi <i>et al.</i> (2015); Lokanan & Sharma (2018)
5	Arrogance	CEO Narcissism	Abdullahi <i>et al.</i> (2015); Puspitha & Yasa (2018)
		Political Connections	Hasnan <i>et al.</i> (2013); Wu, Johan, & Rui (2014)
6	Corporate Fraud	Beneish M-Score	Beneish (1999); Warshavsky (2012); Zaki (2017)
		F-Score	Dechow <i>et al.</i> (2011); Hung, Ha, & Binh (2017)
		Tax Avoidence	Chen, Huang, Liu, & Wang (2019)

The sample used in this study is the samples have met the criteria that have been determined. The criteria for company samples to be examined are as follows:

1. Registered on the Indonesia Stock Exchange from the period 2011 to 2017.
2. Not engaged in the financial, property, real estate industry and/or construction industry.
3. Has published financial statement consisting of statement of financial position, statement of profit or loss and other comprehensive income and statement of cash flow by using the Rupiah (Rp) as reporting currency from 2011 to 2017.
4. Has published annual report consisting of a list of CEO profiles, board of director profiles, company committee profiles, disclosure of the company's shareholding structure, a list of board of director's meetings from 2011 to 2017.

The final data collected will be analyse through the statistic description test, outlier test, classic assumption test (autocorrelation test, multicollinearity test, heteroscedasticity test and normality test), and hypothesis test (F value test, t value test, and coeffision determination test) using SPSS (*Statistical Package for The Social Sciences*) 24.0.

#### **4. Results and Discussions**

The total population of companies listed on the Indonesia Stock Exchange (IDX) as March 1, 2019 is 626 companies. There are 208 companies listed on the IDX after January 1, 2012 so that they do not meet the research criteria and are not further examined in this research. Of the remaining 418 companies listed on the IDX before January 1, 2012, there were 108 companies which were not examined further because they were engaged in the finance, property, real estate and construction industries (64 moving companies in the financial industry and the remaining 44 companies are engaged in the property, real estate and construction industries). Thus the data of remaining 310 companies was collected from 2012 to 2017 resulting 1,550 data that will be further examined in this research.

All the of classic assumption test conected showed that the data passed all the classic assumption test with Durbin Watson value (autocorrelation test) of 0.79 for financial distress and 1.30 for corporate fraud, VIF value (multicollinearity test) of 1.013 for pressure, 1.04 for opportunity, 1.62 for rationalization, and 1.00 for capability, and 1.63 for arrogance. The result of scatterplot test (heteroscedasticity test) and normal P-P Plot test (normality test) also showed that the data do not have heteroscedasticity and normality problem.



**Tabel2. Result of Hypothesis Test (t value test)**

No	Variable Dependent	Variable Independent	Std. Error	Standardized Coefficients Beta	t	Sig.	Decision
H1	Corporate Fraud	Pressure	0,15200	0,11800	4,34300	0,00000	Accepted
H2	Corporate Fraud	Opportunity	0,06800	0,08800	3,20800	0,00100	Accepted
H3	Corporate Fraud	Rationalization	0,02200	0,07400	2,18000	0,02900	Accepted
H4	Corporate Fraud	Capability	0,00200	0,05600	2,06200	0,03900	Accepted
H5	Corporate Fraud	Arrogance	0,03700	-0,05900	-1,73900	0,08200	Rejected

Based on the results of hypothesis testing in Tabel 2 above, it can be concluded that hypothesis one (H1), , hypothesis two (H2), hypothesis three (H3), and hypothesis four (H4) have successfully accepted, so it can be concluded that pressure, opportunity, rationalization, and capability have a significant influence on corporate fraud. The results of this study are consistent with the results of previous studies conducted by Abdullahi *et al.* (2015), Aminian *et al.* (2016), Dechow *et al.* (2011), Hasnan *et al.* (2013), Jia *et al.* (2009), Lokanan and Sharma (2018), Maccarthy (2017), Puspitha and Yasa (2018), Skousen *et al.* (2009), Wang *et al.* (2017), Warshavsky (2012), Wu *et al.* (2014) and Zaki (2017). However, The result also showed that hypothesis five (H5) is rejected, which is not consistent with the previous studies.

Culture in Indonesia which is well-known for being friendly, polite and humble influences the company's CEO's desire to show his narcissistic nature, strict supervision by government agencies (BEI and OJK) in overseeing financial activities of public companies and initiatives of capital provider agencies (banks and other financial institutions) to maintain a healthy non-performing loan (NPL) index results in the lack of effective political influence the company has in helping companies to provide company working capital can be attributed to the insignificance of the effect of arrogance variables on corporate fraud.

**5. Conclusions and Implications**

Corporate fraud has become an issue that has become the center of attention of governments in every country. The losses incurred by corporate fraud cannot be underestimated by interested parties. Not only material losses that can reach millions or even billions of dollars, the losses that arise can also include non-material losses such as reputation, employee morale and business relations and relations with the authorities. This causes research on the method of detecting and preventing corporate fraud from becoming very important.

Corporate fraud is not discriminatory. In this case, corporate fraud can occur anywhere and anytime. No company is truly immune and can prevent corporate fraud. Major cases such as the

Enron Corporation and WorldCom cases can be good examples in proving that corporate fraud can even occur in multinational companies that have a solid management system and highly educated and competent human resources.

Research on corporate fraud has been carried out by many economic experts around the world since the 1980s. The studies that have been going on for the past 3 (three) decades are still trying to find the right factors in detecting and preventing the occurrence of corporate fraud. But until now, no single study has really been able to answer all the questions examined by the experts in the world economy. Especially with the development of information technology and science, it is increasingly difficult for researchers to look for factors that are relevant to corporate fraud research.

This study tries to empirically examine the factors that enable corporate fraud to occur using only secondary data available and freely accessible to the general public, so that the general public can analyze the possibility of corporate fraud in a company based on secondary data. Fraud pentagon theory is the main theory used in this study to explain the factors that can cause corporate fraud. From the results of this study, it can be concluded that fraud pentagon analysis can be effectively used to detect the possibility of corporate fraud, where the measurement of all variables examined in this study uses secondary data that can be accessed freely by the public. This facilitates the efforts of economic practitioners, academics, governments and even the public to detect the possibility of corporate fraud occurring in day to day economic activities.

Some recommendations and suggestions that can be developed in future research/studies are expand the scope of the analysis of corporate fraud by including an analysis of other types of corporate fraud such as misuse of company assets and fraudulent government, development of formulas/measurements so that they can be applied to detect corporate fraud in companies engaged in the finance, property, real estate and construction industries. Future researcher also can changing the method of collecting data from secondary data into primary data or combined data using questionnaire instruments or by direct interviews with the respondents involved in research so that research can be done with the availability of more complete and accurate data.

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