

Lack of Financial Reporting Using Crowe's Fraud Pentagon Theory

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Abstract

Research purposes: This paper examines factors affecting fraudulent financial reporting based on Crowe's fraud pentagon theory. Pentagon theory elements include pressure (financial stability, financial target, external pressure), opportunity (the independent board of commissioners), rationalization (change in auditor), competence (director change), arrogance (frequent number of directors' display picture in the annual report).

Methods: This study used secondary data gathered from annual reports and financial reports of companies in the manufacturing sector listed on the Indonesia Stock Exchange during 2015-2019. Data analysis method tested using logistic regression analysis.

Results: The results showed that financial stability and auditor change effects on fraudulent financial reporting. Results also show that financial target, external pressure, independent board of commissioners, directors change, and a frequent number of director's display picture in an annual report does not affect the fraudulent financial reporting.

Novelty: The combination of using pentagon theory with Beneish M-Score as a prediction of financial statement fraud. The contribution of this research is to provide input to report's users to pay attention to pressure and rationalization factors in fraudulent financial reporting.

Keywords:

Fraudulent Financial Reporting, Fraud Pentagon, Pressure, Opportunity, Rationalization, Competence, Arrogance

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INTRODUCTION

Company financial reports are means of communication related to financial activities and operations in the company that contain financial data that can be used by users of financial information. Therefore, the information presented in the financial statements must be reliable. Unfortunately, financial reports that are presented fraudulently in public companies have raised the concerns of users of financial information, causing negative impacts, namely loss of investor confidence, damaging to the reputation of the company, and causing potential fines from regulators and criminal acts.

The result of the RTTN survey by ACFE (2020) shows 14% of financial statement fraud's cases. Although the percentage of cases is small, the amount of losses suffered and borne by the

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company for cases of fraudulent financial statements is the biggest loss. The median financial statement fraud's loss based on the ACFE survey for 2020 was \$3,000,000, while the median loss for asset misappropriation and corruption were only \$112,000 and \$239,000, respectively.

Several cases of fraudulent financial statements committed by companies in Indonesia include PT Garuda which recorded revenue received in advance as revenue in 2018 amounting to USD239,940,000 from Mahata (Haliem & Nurdiana, 2019), SNP Finance which made fictitious receivables through fictitious sales in 2017 (Qolbi, 2019), and PT Hanson International 2016 which manipulated in accounting presentation related to the sale of ready-to-build lots with a gross value of IDR 732 billion (Idris, 2020). Some of these cases were detrimental to the sustainability of the company.

Financial statement fraud is also often carried out by professionals and top management with their abilities, so this makes fraudulent financial statements increasingly difficult to disclose. Financial statement fraud is synonymous with a white-collar crime because this fraud is often committed by someone who is educated, respected, and has a strategic position in a company. Financial statement fraud is a serious problem because it can harm many users of financial statements. Fraudulent financial statements can occur at various levels of companies, from small to large, including companies listed on the stock exchange.

Several factors cause fraud, one of which was popularized by Cressey in 1953 called the fraud triangle, including pressure, opportunity, and rationalization. Fitri, Syukur and Justisa (2019) examine financial statement fraud in non-financial companies using the fraud triangle and Beneish M Score. Then the theory continued to develop until finally the fraud diamond perspective emerged by Wolfe and Hermanson (2004), with additional factor that encourages fraud namely the capability of the fraudster. Handoko & Natasya (2019) researched financial statement fraud in banking using fraud diamond and Beneish M Score.

The development of the perspective driving the occurrence of the latest fraud, namely the fraud pentagon, was initiated by Crowe (2010). The fraud pentagon was popularized by Crowe in 2010, known as Crowe's fraud pentagon theory, includes pressure, opportunity, rationalization, competence, and arrogance. Nindito (2018) examined 14 companies which were sanctioned by the OJK in 2013-2015 by using the pentagon theory. Another study that uses the pentagon theory with an F score was Pamungkas which examines 30 samples of companies that implement the Association of Southeast Asian Nations (ASEAN) Corporate Governance Scorecard in Indonesia in 2012-2016. Meanwhile, Ariyanto et al. (2021) examined financial statement fraud in pharmaceutical companies using the pentagon theory and F Score.

This study uses the pentagon theory because it is considered relatively new. The measurement of financial reporting fraud uses the benefit M score, because the measurement provides a good level of prediction (Repousis, 2016) and the beneish M score is more precise than the F score (Hugo, 2019). From several previous studies, it has not been found yet study that uses the pentagon theory with beneish M score to predict fraudulent financial reporting.

In this study, the pressure element uses financial stability, financial targets, and external pressures proxies. Independent board of commissioners is a proxy for opportunity. The element of rationalization is proxied by the change of auditors. Competence is proxied by change of director. Meanwhile, the element of arrogance is proxied by the number of pictures of the directors displayed in the annual report.

The financial stability of a company is greatly influenced by various situations such as the economy or conditions from the industry. When economic and industrial conditions are not good, there is a tendency for management to take unethical ways to cover up the bad financial conditions of the company. Fitri, et al., (2019), Handoko & Natasya, (2019) proved that fraudulent financial reporting was affected by financial targets. Meanwhile, Omukaga, (2019) and Nindito, (2018) obtained results that financial stability did not affect fraudulent financial reporting.

Return on Asset (ROA) is an indicator of measuring the performance of the financial target. Managers will be stressed when the set target is high. Fitri et al., (2019) proved that high

financial targets create a high risk of management committing fraudulent financial reporting. Meanwhile, Omukaga (2019) and Indarto & Ghozali (2016) found that financial targets do not affect fraudulent financial reporting.

External pressure is proxied by leverage. High leverage ratio is external pressure on company management, because management must be able to convince creditors that the company has the ability to repay its obligations. Omukaga (2019), Fitri, et al., (2019) found evidence that high leverage triggers fraudulent financial reporting. However, different evidence is resulted by Putra (2019), that leverage was in fraudulent financial reporting.

The opportunity factor is proxied by board independence. The responsibility of the independent board of commissioners is to ensure that the company has implemented and enforced SOPs properly without any conflict of interest with the company. The results of research by Ghafoor *et al.* (2019) and Fitri *et al.* (2019) proved that a small number of commissioners leads to fraudulent financial reporting. However, *Hasnan et al.* (2013), and also Omukaga (2019) proved that the independence of the board has no effect on fraudulent financial reporting.

The rationalization factor is proxied by auditor change. Companies with a relatively frequent voluntary turnover of external auditors tend to commit fraud (Ghafoor *et al.*, 2019; Fitri *et al.*, 2019), but the opposite results were obtained from the research of Handoko & Natasya (2019), as well as Indarto & Ghozali (2016) that auditor turnover did not affect fraudulent financial reporting.

One of the causes of a lot of fraud is when there is a party who has competence and capability in carrying out the fraud, because even though the perpetrator has pressure, as well as opportunity, without the competence and capability of the perpetrator, the possibility of committing fraud tends to be small. Pamungkas *et al.* (2018) and Omukaga (2019) found that financial reporting fraud was positively influenced by director change. Meanwhile, Handoko *et al.* (2019) and Nindito (2018) stated that there was no influence of the director change on financial reporting fraud.

According to arrogance variable, research of Tessa & Harto (2016), Siddiq *et al.* (2017) and Bawekes *et al.* (2018) showed that the more CEO profiles that were displayed in the annual report affect fraudulent financial reporting. However, Pamungkas *et al.* (2018) provided the opposite result.

The measurement of financial statement fraud used by Tessa and Harto is a bank that restated financial statements for 2012-2014, Pamungkas *et al.* (2018) used non-financial companies that were sanctioned by the OJK in 2012-2016. Previous studies used fraud measurements based on real events, while this study used financial ratios to measure the Beneish M-Score. The use of financial statement ratios can be used to predict financial reporting fraud. The use of the pentagon theory as a theory of fraud with the measurement of financial statement fraud using the benefit M ratio is a novelty, considering that previous research has not been found that examines this combination. Previous research only used the types of financial companies (Tessa & Harto, 2016; Handoko & Natasya, 2019), pharmaceutical companies (Ariyanto et al., 2021). While this study uses all manufacturing companies with a longer observation time, 2015-2019. With renewable data and long observations, this research gives more encouraging results. Based on the phenomena and research gap above, this study re-examined financial reporting fraud by measuring the Beneish M-Score using the pentagon theory for manufacturing companies.

The purpose of this study is to examine the causes of financial statement fraud by using a fraud pentagon which includes pressure (financial stability, financial target, external pressure), opportunity (board independence), rationalization (change of auditors), competence (change of director), and arrogance (profile picture). The reason for using the fraud pentagon is because according to Wolfe & Hermanson (2004) when someone does not have the ability and strategic position, then they cannot commit fraud. Therefore, it is necessary to add an element of competence. Then the arrogance element is needed to cover the shortcomings in the fraud triangle element, as described by Horwath Crowe (2012), namely arrogance as an attitude of superiority

for a person combined with greed and believing that he is immune to existing internal controls so that fraud can be committed.

The contribution of this research is to provide the results of a study of fraudulent financial reporting using the pentagon theory approach. In addition, users of financial reports also pay attention to significant changes in total assets and frequent voluntary replacement of auditors as an indication that management has committed fraudulent financial reporting.

Financial stability shows that the economic environment and corporate financial conditions are stable (Handoko & Natasya, 2019). The high level of financial stability of a company can have an impact on increasing indications of the possibility of a company committing fraudulent financial reporting. This is because the higher the level of financial stability, the more management is required to get better results. The existence of these high demands creates high pressure and this can trigger management to commit fraudulent reporting. Research conducted by Handoko and Natasya (2019), Fitri *et al.* (2019) found that there was a positive effect of financial stability on the detection of fraudulent financial reporting.

H₁: Financial stability has a positive effect on the possibility of fraudulent financial reporting.

Skousen *et al.* (2009) explained that managers are required to achieve the financial goals and targets that have been planned. Therefore, managements feel pressured to achieve these targets. AICPA (2002), SAS Number 99 states that one of the inherent aspects of the misrepresentation of financial statement reporting is excessive pressure in meeting the financial targets set by those in authority. For example, sales targets, high profitability. Fitri *et al.* (2019), and Handoko *et al.* (2019) found that high financial targets lead to fraudulent financial reporting.

H₂: Financial target has a positive effect on the possibility of fraudulent financial reporting.

Skousen *et al.* (2009) argued that external pressures were related to debts that companies must pay on time. When companies have large debts and a greater risk of loss, there may be potential for fraudulent reporting because companies need to have high returns to convince creditors that they can pay their debts. Indarto dan Ghozali (2016) also explained that managers can use manipulation of financial statements due to the need to meet debt covenants from the expectation of a significant and too aggressive creditor analysis trend. Tesssa dan Harto (2016), Omukaga (2019) and Fitri *et al.* (2019) also found that external pressures due to high leverage lead to fraudulent financial reporting.

H₃: External pressure has a positive effect on the possibility of fraudulent financial reporting.

AICPA (2002) via SAS No. 99 stated there was a risk factor from the element of opportunity, namely ineffective governance. The party responsible for governance is the presence of the board of commissioners. The Board of Commissioners comes from inside and outside the company. Independent outside commissioners are expected to be able to carry out better supervision. Some studies like Indarto and Ghozali (2016), Ghafoor *et al.* (2019), Martins and Júnior (2019) obtained the result that an independent board of commissioners was an important for the prevention of fraudulent financial reporting. This means that when the number of independent commissioners is large, fraud is less likely to occur.

H₄: The independent board of commissioners has a negative effect on the possibility of fraudulent financial reporting.

The change of auditors can occur because it is mandatory (in accordance with applicable laws) or voluntary. Companies with a fairly frequent turnover of external auditors have a tendency to commit fraud. By changing auditors, fraud committed by the company cannot be detected by the new auditor (Indarto dan Ghozali, 2016). This tendency motivates fraudster companies to change independent auditors voluntarily, with the hope that they can cover up unethical actions that occur within the company. The voluntary change of auditors is expected not to find fraud

Table 1. Details of the Research Sample

Criteria	Year				
	2015	2016	2017	2018	2019
Manufacturing companies listed on the IDX	143	145	158	168	181
Companies that do not display a CEO image in the annual report	(34)	(25)	(35)	(41)	(53)
The number of samples to be studied each year	109	120	123	127	128
The final sample for research testing (2015-2019)	607				

Source: processed secondary data 2020

committed by management. The replacement of auditors (new auditors) is considered to be more compromising in its efforts to rationalize fraud. Omukaga (2019), Fitri *et al.* (2019), and Ghafoor *et al.* (2019) indicates that auditor changes have a positive relationship with fraudulent financial reporting.

H₅: Auditor change has a positive effect on the possibility of fraudulent financial reporting.

Companies replace directors when the directors are aware of fraud. With the change of new directors, it takes time for adaptation, so the performance at the beginning of the change cannot be optimal (Tessa & Harto, 2016). Yulianti *et al.* (2019) also proved that the change of directors provides opportunities for unethical actions. Pamungkas *et al.* (2018) and Omukaga (2019) provided the result of a positive influence between the change of directors by the company with fraudulent financial reporting.

H₆: Director change has a positive effect on the possibility of fraudulent financial reporting.

Table 2. The operational definition of variables

Variable	Measurement	Formula
Financial reporting fraud	Beneish Score	-2,22 score 1 (fraud); <-2,22 score 0 (no fraud)
Pressure	Financial stability	$ACHANGE = (Total\ Aset\ t - Total\ Aset\ t-1) / Total\ Aset\ t$
	ROA	$ROA = Laba\ Bersih\ (t-1) / Total\ Aset\ (t-1)$
Opportunity	External pressure	$LEV = Total\ Utang / Total\ Aset$
	Independent board of commissioners	$INDEPT = \% \text{ independent commissioners}$
Rasionalization	Change of auditors	ACH = dummy, 1 if changed and 0 if not compared to the previous year
Competence	Change of the board of directors	DCH = Dummy variable, if the company changes the composition of the board of directors compared to the previous period, the score is 1, but if there is no change it is worth 0.
Arrogance	Profile picture	CEOP = The number of display pictures in the form of profiles, photos, achievements, and similar information about the track of records of the directors displayed in the annual report.

Table 3. Beneish Ratio

Financial Ratios	Formula
Days Sales in Receivables Index (DSRI)	$(Receivables_t / Sales_t) / (Receivables_{t-1} / Sales_{t-1})$
Gross Margin Index (GMI)	$((Sales_{t-1} - COGS_{t-1}) / Sales_{t-1}) / ((Sales_t - COGS_t) / Sales_t)$
Asset Quality Index (AQI)	$(1 - ((Current\ assets_t + Net\ Fixed\ Assets_t) / Total\ assets_t)) / (1 - ((Current\ assets_{t-1} + Net\ Fixed\ Assets_{t-1}) / Total\ assets_{t-1}))$
Sales Growth Index (SGI)	$(Sales_t) / (Sales_{t-1})$
Depreciation Index (DEPI)	$(Depreciation_{t-1} / Depreciation_{t-1} + Net\ Fixed\ Assets_{t-1}) / (Depreciation_t / Depreciation_t + Net\ Fixed\ Assets_t)$
Sales General And Administrative Expenses Index (SGAI)	$(Sales, general, and administrative\ expense_t / Sales_t) / (Sales, general, and administrative\ expense_{t-1} / Sales_{t-1})$
Leverage Index (LVGI)	$(Long\ Term\ Debt_t + Current\ liabilities_t) / Total\ assets_t / (Long\ Term\ Debt_{t-1} + Current\ liabilities_{t-1}) / Total\ assets_{t-1}$
Total Accruals to Total Assets (TATA)	$(\Delta Working\ Capital - \Delta Cash + \Delta Income\ tax\ payable + \Delta Long\ Term\ Debt - Depreciation_t) / (Total\ assetst)$

Crowe (2012) through a study by COSO (Committee of Sponsoring Organizations of the Treadway Commission) found that at least 70% of fraudsters have personal profiles that combine pressure and arrogance as well as greed. One element of arrogance from the perspective of the CEO or directors is a big ego, where the current CEO or director wants to be seen as a celebrity rather than an entrepreneur. Because of that big ego, fraudster CEOs or directors prefer to be seen as ‘celebrities’ rather than entrepreneurs. Tesssa and Harto (2016), Bawakes *et al.* (2018) proved that more CEO profile photos in annual reports can increase the possibility of fraudulent financial reporting.

H₇: The frequent number of directors’ display picture in an annual report has a positive effect on the possibility of fraudulent financial reporting.

METHODS

The population of this study was all companies in the manufacturing sector listed on the IDX from 2015 to 2019. The sample criteria are manufacturing companies listed on the IDX in 2015-2019, publishing annual financial reports with a closing books period of December 31, and containing data related to the variables studied. Based on these criteria obtained, 607 observational data were obtained which are presented in table 1. Equation 1 shows the logistic regression used in this study.

Hypothetical testing

The Hosmer and Lameshow Goodness of Fit Test values obtained a significance value of 0.916 which is greater than 0.05, so the model fits. The estimation accuracy of the regression model in predicting the probability level of the model estimation is 63.4%. The results of the logistic regression testing for the hypothesis can be seen in table 6. Correlation test shows consistent result with logistic regression result, only financial stability and auditor turnover have a relationship with fraudulent financial reporting. The relationship is very weak with the value of financial stability correlation 0.117 and auditor turnover 0.098.

$$\ln(p/1-p) = \alpha + \beta_1 ACHANGE + \beta_2 ROA + \beta_3 LEV + \beta_4 INDEP + \beta_5 ACH + \beta_6 DCH + \beta_7 CEOP + e \dots \dots \dots (1)$$

Table 4. Descriptive Statistics of Variables in Research

	N	Min	Max	Mean	Std. Deviation
Financial Stability	607	-5.875	0.898	0.033	0.327
Financial Target	607	-0.392	0.716	0.044	0.094
External Pressure	607	0.053	4.889	0.526	0.427
Independent Board of Commissioners	607	0.167	1.000	0.411	0.115
Frequent Number of Director's Display Picture in An Annual Report	607	1.000	48.000	9.350	6.595

source: processed secondary data 2020

RESULTS AND DISCUSSION

Financial stability has a positive effect on the possibility of financial statement fraud. Pressure to always reach a certain level of financial condition, such as financial stability, is not great. This is indicated by the low average value of financial stability in table 4 which is 0.033 so that the company does not commit fraudulent financial reporting. These results are corroborated by the data in table 5 that companies that do not commit fraudulent financial reporting are greater (373) than companies that commit fraudulent financial reporting (234). When management does not face pressure to maintain company finances, management does not commit unethical actions. This result can be strengthened by the economic conditions which tend to be stable in the observation year. These findings corroborate the research conducted by Fitri *et al.* (2019), Handoko & Natasya (2019).

Financial targets do not have a positive effect on the possibility of fraudulent financial statements. The high and low ROA ratio in this study has not been able to be the reason for the occurrence of financial statement fraud, because if we look further, the ROA ratio obtained by the company shows more about the performance of management and also the company's entities in obtaining profits from the use of assets owned. ROA in this study according to table 4 shows a low value average (0.044). This causes less effective in seeing the pressure experienced by management within the company. The results of this study strengthen the research by Pamungkas *et al.* (2018), Omukaga (2019) which stated that financial targets were not proven to affect fraudulent financial reporting.

External pressure does not have a positive effect on the possibility of fraudulent financial statements. The leverage ratio is not proven to make the companies commit fraudulent financial statements. If we look further, the proportion of debt in this study according to table 5 tends to be low with a value of 0.526. This is the reason that management does not feel pressured by debt agreements from third parties. The results of this study strengthen the results of Putra (2019) and Umar *et al.* (2020).

The independent board of commissioners does not have a positive effect on the possibility of fraudulent financial statements. The ratio of the existence of independent commissioners in this study is still low with a value of 0.411. The low percentage may cause the quality of

Table 5. Crosstab analysis

	Non Fraud (0)		Fraud (1)		Total	
Auditor Does Not Change (0)	324	53.40%	186	30.60%	510	84.00%
Auditor Changes (1)	49	8.10%	48	7.90%	97	16.00%
Total	373	61.40%	234	38.60%	607	100.00%
Director Does Not Change (0)	198	32.60%	136	22.40%	334	55.00%
Director Changes (1)	175	28.80%	98	16.10%	273	45.00%
Total	373	61.40%	234	38.60%	607	100.00%

source: processed secondary data 2020

Table 6. Logistic Regression Analysis Results

Variable	B	Sig.	Decision
Financial Stability	2.302	0.001	H ₁ : accepted
Financial Target	0.79	0.791	H ₂ : rejected
External Pressure	-0.123	0.599	H ₃ : rejected
Independent board of Commissioners	1.147	0.133	H ₄ : rejected
Auditor Change	0.480	0.038	H ₅ : accepted
Director Change	-0.160	0.363	H ₆ : rejected
Director Display Picture in Annual Report	-0.016	0.242	H ₇ : rejected
(Constant)	-0.867	0.015	

source: SPSS output

supervision related to good corporate governance is not optimal. The proportion of independent commissioners has a minimum value of 0.167 and a maximum of 1.00. The size of the proportion is not able to provide an overview of the implementation of good governance practices. The results of this study are in line with the research Hasnan et al. (2013), Handoko & Natasya (2019), and Omukaga (2019).

Auditor change has a positive effect on the possibility of financial statement fraud. Based on table 5, auditor turnover for companies that commit fraudulent financial reporting is 49%, while companies that do not commit fraudulent financial reporting are only 36%. So, the change of auditors can be used as a form of eradicating manipulative tracks from the previous auditor. Companies that often make changes to their external auditors can be considered to have a goal to hide fraud in financial statements. Companies that make frequent changes to external auditors can be deemed to have the objective of concealing fraudulent financial statements. Replacement of auditors who are considered more able to compromise in an effort to rationalize fraud. Thus, this research supports research Fitri *et al.* (2019), Ghafoor *et al.* (2019), and Omukaga (2019).

changes in directors do not have a positive effect on the possibility of fraudulent financial statements. Table 5 provides an illustration that companies that commit fraud in financial statements are more likely to not change directors (40%) compared to those that make changes of directors at 35%. The existence of a change or change in the formation of directors does not mean the company is trying to hide the fraudulent scheme they have carried out. Thus, this research supports research Nindito (2018), and Putra (2019).

The appearance of the director's image in the annual report does not have a positive effect on the possibility of fraudulent financial statements. Table 4 shows that there are companies that only display 1 image and the average shows a low position (9.35). From these data it can be explained that the number of photos of company directors displayed tends to only introduce company management to readers of annual reports. Thus, this research supports research Yulianti *et al.* (2019), and Umar *et al.* (2020).

CONCLUSION

The use of the pentagon theory in this study provides a conclusion that fraudulent financial reporting is mostly triggered by management pressure to polish the financial statements so that they look stable, with the aim of giving an impression to users. In addition, auditor turnover can also trigger management to rationalize fraudulent financial reporting. This is because management perceives that the new auditor cannot detect fraudulent financial reporting by management. Aspects of opportunity, competence, and arrogance have not been able to provide evidence that influences management to commit fraudulent financial reporting.

The implication of this research is that users of financial statements, in this case investors, regulators, and other stakeholders, should pay more attention to the possibility of companies committing fraud in financial statements by not making significant asset changes. The company wants to give the impression to stakeholders that the company is financially stable. Voluntary

change of auditors also needs to be considered. The change of auditors is not wrong, but if the change of auditors every year must be a special concern for users of financial statements.

The limitations of this study include the number of companies that do not display the CEO's images, so it cannot be processed. Of the seven hypotheses, only 2 variables affect the possibility of fraudulent financial reporting, so that the ability of the independent variable to explain the dependent variable is only 6.1%. Therefore, there are 93.9% other variables outside the variables studied.

Suggestions for further research can add proxies from other variables, such as the nature of the industry (opportunity), the ratio of total accruals (rationalization) and others.

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