



Fraudulent financial reporting through the lens of the fraud pentagon theory

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Abstract

Fraud causes trillions of rupiah in losses in the business world. With the fraud pentagon lens, this study aims to examine whether pressure, opportunity, rationalization, capability and arrogance affect fraudulent financial reporting. This study used 51 financial reports from fraud companies indicated by the Financial Services Authority and 51 financial reports from other companies in similar industry, listed on the Indonesian Stock Exchange from 2009 to 2018. The proxies of fraud pentagon were tested by using the logistic regression. The results showed that pressure, opportunity and rationalization had significant effects on fraudulent financial reporting. Meanwhile, capability and arrogance have no effect. These results indicate that the existence of pressure and rationalization can lead to financial fraud, but opportunity negatively affect fraudulent financial reporting. The results of this study contribute to the development of accounting science and to provide information on the prevention and detection of fraud in companies.

Keywords: Fraud; Fraudulent Financial Reporting; Fraud Pentagon

Abstrak

Fraud menyebabkan kerugian di dunia bisnis yang mencapai triliunan rupiah. Dengan bingkai *fraud pentagon*, penelitian ini bertujuan untuk menguji apakah *pressure*, *opportunity*, *rationalization*, *capability* dan *arrogance* mempengaruhi terjadinya kecurangan pada laporan keuangan. Penelitian ini menggunakan 51 laporan keuangan dari perusahaan yang terindikasi *fraud* dari Otoritas Jasa Keuangan dan 51 laporan keuangan dari perusahaan sejenis yang tercatat di Bursa Efek Indonesia sebagai pembanding mulai dari tahun 2009 hingga 2018. Hubungan antar variabel diuji dengan menggunakan regresi logistik. Hasil penelitian menunjukkan bahwa variabel *pressure*, *opportunity*, dan *rationalization* berpengaruh terhadap *fraudulent financial reporting*; sedangkan *capability* dan *arrogance* tidak berpengaruh terhadap *fraudulent financial reporting*. Hasil tersebut menunjukkan bahwa adanya *pressure* dan *rationalization* mendorong perusahaan melakukan kecurangan pada laporan keuangan, sedangkan *opportunity* berpengaruh negatif terhadap tindak kecurangan pada laporan keuangan. Hasil penelitian ini berkontribusi dalam pengembangan ilmu akuntansi serta untuk memberikan informasi mengenai pencegahan dan mendeteksi adanya *fraud* di perusahaan.

Kata kunci: *Fraud*; *Fraud Pentagon*; Kecurangan Laporan Keuangan

INTRODUCTION

Fraud is one of the latent dangers that threaten the world and has shown an upward trend within the past few years (Abdullahi & Mansor, 2015). Every year, accounting for 5% of organization incomes become subject to fraud with an average loss of USD2.7 million/case, making up a total loss of USD6.3 billion (Examiners, 2018). There have been three nations with the most numbers of cases of fraud: China with 49 cases, Australia with 38 cases, and Indonesia with 29 cases (Examiners, 2018). This indicates that Indonesia was among the countries with a fairly high level of fraud.

ACFE Indonesia Chapter (2017) further discovered that the most prevalent type of fraud was corruption, followed by misuse of state assets and financial reporting. The loss borne from a total of 36 cases of corruption ranged between Rp100 million and Rp500 million (Chapter, 2017). This gave Indonesia a fairly high Corruption Perception Index (CPI) score. In 2018, Indonesia ranked 89th of the 180 countries on the CPI (Transparency International, 2018). Meanwhile, the fraud that occurred in financial reporting occupied the third place with a total loss of beyond Rp10 billion but with fewer cases, that was four cases (Chapter, 2017). One of the most recent fraud cases in Indonesia involved

PT. Garuda Indonesia Tbk., in which the company recognized an income of Rp3.5 trillion, which was actually only a receivable item. This misrepresentation of interim financial statement in the first quarter of 2019 earned PT. Garuda Indonesia Tbk. a sanction from the Indonesia Stock Exchange (IDX) of Rp250 million (Detik Finance, 2019). Multiple parties had been harmed by this fraudulent financial reporting case (Examiners, 2018). Accordingly, this research aimed to identify and analyze the factors that lead to fraud in companies.

Unlike previous research works which largely used the fraud triangle theory (Cressey, 1953), this research used the fraud pentagon theory with a consideration of two additional factors, namely capability and arrogance (Horwath, 2011). This research used 97% of the proxies used by Skousen, Christopher, & Wright (2009). Similar research in Indonesia did not use as many proxies as this research and only chose some proxies with minimal explanations (see for example Saputra & Kesumaningrum (2017); Agusputri & Sofie (2019); Agustina & Pratomo (2019); Annisya, Lindrianasari, & Asmaranti (2016); Prasastie & Gamayuni (2015)). Many studies in Indonesia also used data of companies with no fraud indications (see for example Agusputri & Sofie (2019); Agustina & Pratomo (2019); Annisya, Lindrianasari, & Asmaranti (2016); Prasastie & Gamayuni (2015)), while the present study used data of companies already determined by the Financial Services Authority (OJK)¹ as exhibiting fraud indications and then compared them with healthy similar companies. Hence, this research offers a clearer description of the factors that influence fraud in financial reporting and presents a greater level of accuracy in fraud detection rather than just predicts fraud in the sample companies. In theoretical terms, this research contributes an insight and knowledge into what elements influence companies into engaging in fraud through financial reporting based on the fraud pentagon theory. Meanwhile, in practical terms, this research is expected to be of use for stakeholders as a source of information regarding the factors must detect as the causes of fraudulent financial reporting in order to avoid harmful fraud.

It is necessary for companies to detect fraud from an early phase. The detection of fraud may be conducted drawing on the fraud pentagon theory (Horwath, 2011). This theory is an extension of the fraud diamond theory (Wolfe & Hermanson, 2004) with an addition of an element, that is arrogance (Horwath, 2011). This fraud pentagon model thus consists of five components, namely pressure, opportunity, rationalization, capability, and arrogance (Horwath, 2011).

The first component in the fraud pentagon is pressure. Pressure may occur due to an unrealized goal or a limitation in time that gives an employee a pressure to commit fraudulent financial reporting (Auditor of Public Accounts, 2011). Rukmana (2018) also explains that in making a true personal interest, an individual would do anything, including committing a fraud with a view to escape a pressure, such as the pressure to achieve a financial target. The presence of a high level of pressure exacerbates fraudulent behavior (Albrecht et al., 2008). In other words, pressure has a positive effect on fraud. This positive relationship between pressure and fraud can be observed in research by Rukmana (2018); Quraini & Rimawati (2018); Rengganis et al. (2019); and Lestari & Henny (2019). Based on the description above, the hypothesis of this research is formulated as follows:

H₁: Pressure has a positive effect on fraudulent financial reporting

The second component of the fraud pentagon theory is opportunity, which is a condition in which one can easily commit an act of crime (Annisya et al., 2016). This opportunity to commit fraud in a company is emerged from weak internal supervision and power abuse (Abdullahi & Mansor, 2015). The wider opportunity leads to the greater the likelihood for one to commit fraud (Muhsin et al., 2018). This positive relationship between opportunity and fraud has been discovered by a number of earlier research studies, one of which by Muhsin et al., (2018); Kusuma, Perdana, & Suranta (2017); Rukmana (2018). Based on the above description above, the hypothesis of this research is formulated as follows:

H₂: Opportunity has a positive effect on fraudulent financial reporting

The third component in the fraud pentagon theory is rationalization, which is justification of a fraudulent behavior due to a lack of personal integrity in an employee or due to other moral reasons (Rae & Subramaniam, 2008). An individual who has committed an act of fraud believes that the act is not a form of fraud but only something he/she is entitled to. Additionally, a fraudster also perceives that he/she has contributed considerably and has been of service to the company (Abdullahi & Mansor, 2015). Rationalization is a form of incorrect or wrong self-justification (Albrecht et al., 2008). The positive relationship between rationalization and fraud can be viewed in the research by Putra &

¹ The 2009–2018 data of fraudulent companies were collected by making a request to the OJK with regard to the database of the companies sanctioned for violations in financial statement representation in the period 2009–2018, especially violations of Decision of the Head of the Capital Market Supervisory Agency No. VIII.G.7 of 2000.

Dwirandra (2019); Aprilia (2018); Utama & Ramantha (2018); Agusputri & Sofie (2019); and Siddiq, Achyani, & Zulfikar (2017). Referring to previous research, the hypothesis to be proposed is as follows:

H₃: Rationalization has a positive effect on fraudulent financial reporting

Fourthly, capability is an expertise an individual is in possession of and is a combination of individual skills and various acquired skills to commit fraud (Omar & Din, 2010; Tugas, 2012). Wolfe & Hermanson (2004) states that an individual will not commit fraud unless he/she has the right capability to execute every step of fraud. One's position as a head of organization, CEO, or director gives him/her a key to committing fraud because by holding his/her current position one will be able to influence others with his/her capability of taking advantage of the situation which could facilitate his/her fraudulent act commitment (Oktarigusta, 2017). However, a fraud perpetrator usually not only has the capability but also the opportunity to derive benefits (Abdullahi & Mansor, 2015). The positive relationship between capability and fraud can be seen in the research by Aprilia (2018); Febrianto & Fitriana (2019); Puspitha & Yasa (2018). The hypothesis that can be formulated based on the description above is as follows:

H₄: Capability has a positive effect on fraudulent financial reporting

The fifth component relates to arrogance. Arrogance is seniority based on the proportion of rights one is entitled to. In the opinion of an arrogant person, neither procedures, policies, nor regulations of the company influence him/her (Horwath, 2011). An arrogant attitude is generally exhibited by those with power and high positions in a company (Siddiq et al., 2017). A high position, for example a CEO wishes to be more widely known to the general public by displaying too many of his/her photo in the financial statement (Utama & Ramantha, 2018). The relationship between arrogance and fraud can be observed in a research by K.H., H.A., and Simon (2015), which states that arrogance has an effect on fraud. Meanwhile, the positive relationship between arrogance and fraud can be observed in the research by Puspitha & Yasa (2018); Bawakes et al. (2018); and Pramana et al. (2019). Referring to previous research, the hypothesis to be proposed is as follows:

H₅: Arrogance has a positive effect on fraudulent financial reporting

METHODS

This quantitative-explanatory research used a sample of companies with fraud indications sanctioned by the OJK based on Regulations of the OJK No. VIII.G.7 and IX.E.2 at some points between 2009 and 2018 (n = 79). We searched for those companies' financial statement, guided by the OJK regulations above, and could only retrieve 51 financial statements. For comparison, a sample of non-fraudulent companies in the same industries was also extracted. Companies with the amounts of sales and assets nearly equal or comparable to those of their fraudulent counterparts were then chosen as benchmarks. As a result of this, we used a sample of 51 fraudulent companies and another sample of 51 non-fraudulent companies at any point between 2009 and 2018. In this research, the dependent variable was fraudulent financial reporting, which was a dummy variable with a score of 1 denoting companies with fraud indications and a score of 0 denoting normal companies. The independent variables in this research were the proxies of the fraud pentagon theory as presented in Table 1.

This research examined the effects of the independent variables pressure, opportunity, rationalization, capability, and arrogance on the dependent variable fraudulent financial reporting with a logistic regression analysis. Logistic regression was used in this research because the dependent variable was in a categorical form. The following is the equation of the logistic regression model used:

$$\text{FRAUD}_i = \alpha + \beta_1 \text{GPM}_i + \beta_2 \text{Schange}_i + \beta_3 \text{Achange}_i + \beta_4 \text{Cata}_i + \beta_5 \text{Salar}_i + \beta_6 \text{Salta}_i + \beta_7 \text{Invsal}_i + \beta_8 \text{LEV}_i + \beta_9 \text{Finance}_i + \beta_{10} \text{Freec}_i + \beta_{11} \text{Oship}_i + \beta_{12} \text{5\%Own}_i + \beta_{13} \text{ROA}_i + \beta_{14} \text{Receivable}_i + \beta_{15} \text{Inventory}_i + \beta_{16} \text{Bdout}_i + \beta_{17} \text{Audcom}_i + \beta_{18} \text{Audcsize}_i + \beta_{19} \text{IND}_i + \beta_{20} \text{Expert}_i + \beta_{21} \text{CEO}_i + \beta_{22} \text{Totalturn}_i + \beta_{23} \text{Audchang}_i + \beta_{24} \text{Audreport}_i + \beta_{25} \text{Tacc}_i + \beta_{26} \text{Changedir}_i + \beta_{27} \text{CEOpic}_i + \beta_{28} \text{Dualismposisi}_i + \epsilon_i$$

RESULTS AND DISCUSSION

Table 2 shows the descriptive statistics and the difference between the fraudulent and non-fraudulent companies for each non-categorical variable. The analysis results showed that two variables were significantly different, namely the variables of manager's percentage of shareholding (X1_11 and X1_12). The average manager's percentage of shareholding in fraudulent companies was lower than that in non-fraudulent companies. This indicates that manager's percentage of shareholding was able to lower the rate of fraud.

Table 3 shows the crosstabulation result of the effects of the seven proxies of dummy variables on fraudulent financial reporting. Variable X2_4, X2_8, and X4 were related to the discovery of financial

Table 1. Research Variables

Variables		Proxy
Pressure (X_1)	GPM	= Gross Profit Margin
	Schange	= Changes in sales – industry average changes in sales
	Achange	= (Total Asset – Total Asset t-1)/Total Asset t-1)
	Cata	= (Operating Income – Cash Flow from Operating)/Total Asset
	Salar	= Sales/Account Receivable
	Salta	= Sales/Total Asset
	Insva	= Inventory/Sales
	Lev	= Total Debt/Total Asset
	Finance	= Cash from Operations–Average Capital Expenditure t_3 to t_1
	Freec	= Operating activities - net cash flow - cash dividend - capital expenditure
	Oship	= The Cumulative Percentage of Ownership in the firm held by insiders
	%5Own	= The Percentage of shares held by management who hold greater than 5% of the outstanding shares
	ROA	= Earning After Tax/Total Asset
	Opportunity (X_2)	Receivable
Inventory		= (Inventory/Sales) – (Inventory t-1/Sales t-1)
Bdout		= The percentage of board members as outside members
Audcom		= A dummy variable where 1 = mention of oversight by an internal audit committee and 0 = no mention of oversight
Audsize		= The size of the audit committee
IND		= The percentage of audit committee members who are independent of the company
Expert		= Indicator variable with the value of 1 if audit committee includes no directors with financial expertise
CEO		= Indicator variable with a value of 1 if the chairperson of the board holds the managerial position of CEO or president 0 otherwise
Rationalization (X_3)	Totalturn	= The number of executives leaving the company in the two years prior to fraud
	Audchang	= A dummy variable for change in auditor where 1 = change in auditor in the 2 years prior to <i>fraud</i> occurrence and 0 = no change in auditor
	Audreport	= A dummy variable for an audit where 1 = an unqualified opinion with additional language
	Tacc	= (Working capital – Cash – Current tax payable – Depreciation & amortization)/Total Asset
Capability (X_4)	Change in director	= A dummy variable for change in Director where 1 = change in director in the 2 years prior to <i>fraud</i> occurrence and 0 = no change in director
Arrogance (X_5)	Frequent number of CEO's picture	= Total CEOpics
	Position dualism	= Position dualism
Fraudulent Financial Reporting (FFR) (Y)		= Indicator variable with 1 if company fraudulent financial reporting and 0 if there is no fraudulent financial reporting

Note: Most of the proxies above are obtained from Skousen, Christopher, & Wright (2009) while capability proxies from Wolfe & Hermanson (2004)

statements with fraud indications. Companies would have a chance of having fraud indications with no supervision by audit committees in place ($X2_4$) 8.85 times (1:0.113) as high as non-fraudulent companies. Non-fraudulent companies would have a chance 0.249 times as high as the chance of fraudulent-indicated companies to have a head of board of directors who did not hold the position of a CEO ($X2_8$). The existence of turnover or not was also closely related to fraud commitment.

Table 2. Descriptive Statistics

Variables	Fraud		Non-Fraud		t test
	Mean	Std. Dev.	Mean	Std. Dev.	
X1_1 (GPM)	0,160	0.151	0.218	0.153	1.947
X1_2 (Schange)	-1.182	2.511	-1.447	3.147	-0.469
X1_3 (Achange)	0.312	1.321	1.275	7.466	0.906
X1_4 (Cata)	0.045	0.088	0.067	0.088	1.286
X1_5 (Salar)	12.017	15.766	24.395	57.331	1.487
X1_6 (Salta)	0.564	0.637	0.652	0.520	0.772
X1_7 (Insval)	0.477	1.057	1.187	5.992	0.833
X1_8 (LEV)	0.475	0.337	0.470	0.392	-0.064
X1_9 (Finance)	-2.416	4.683	-3.426	9.186	-0.700
X1_10 (Freec)	-618.708	1.667	-456.413	753.348	0.633
X1_11 (Oship)	0.034	0.166	0.594	1.907	2.087*
X1_12 (%5own)	0.052	0.140	0.591	1.253	3.052**
X1_13 (ROA)	2.932	11.998	4.980	6.859	1.058
X2_1 (Receivable)	-0.036	0.209	0.036	0.394	1.157
X2_2 (Inventory)	0.078	0.638	0.827	5.556	0.957
X2_3 (Bdout)	40.663	11.456	39.078	12.380	-0.671
X2_5 (Audsize)	1.137	0.566	1.097	0.361	-0.428
X2_6 (IND)	62.217	13.313	65.990	8.660	1.696
X2_9 (Totalturn)	0.118	0.382	0.294	0.672	1.630
X3_3 (Tacc)	93.401	716.593	168.645	504.155	0.613
X5_1 (CEO's Picture)	1.804	1.132	2.196	0.980	1.871

Note: Significant differences at *p<0.05; **p<0.01.

Table 3. Crosstabulation results

Variables	Non Fraud		Fraud		Odds Ratio
X2_4 (monitoring by committee audit)					
Presence	5	(16.7%)	25	(83.3%)	0.113*
Absence	46	(63.9%)	26	(36.1%)	
X2_7 (At least one audit committee is an expert)					
Presence	20	(48.8%)	21	(51.2%)	0.922
Absence	31	(50.8%)	30	(49.2%)	
X2_8 (Board chair with managerial position)					
Board chair holds managerial position	38	(44.7%)	47	(55.3%)	0.249*
Board chair doesn't hold managerial position	13	(76.5%)	4	(23.5%)	
X3_1 (Auditor Change)					
Change in auditor	45	(51.1%)	43	(48.9%)	1.395
No change in auditor	6	(42.9%)	8	(57.1%)	
X3_2 (Auditor Opinion)					
Unqualified opinion with explanatory paragraph	1	(50.0%)	1	(50.0%)	1.000
Unqualified Opinion	50	(50.0%)	50	(50.0%)	
X4 (Change in board of Director)					
No change in board of director	39	(43.4%)	51	(56.7%)	- ⁺
Change in board of director	12	(100%)	0	(0.0%)	
X5_2 (Position dualism)					
There is no position dualism	39	(56.5%)	30	(43.5%)	2.275
There is position dualism	12	(36.4%)	21	(63.6%)	

Note: *Chi-Square is significant at p<0.05. ⁺ The odds ratio cannot be calculated because the value is 0.

Table 4. Logistic Regression Results on Pressure Variables

Variables	B	Wald	p-value	Exp (B)
X1_1 (GPM)	-6.745	0.846	0.358	0.001
X1_2 (Schange)	0.000	1.334	0.248	1.000
X1_3 (Achange)	0.453	0.282	0.595	1.574
X1_4 (Cata)	9.094	0.423	0.515	8900.385
X1_5 (Salar)	-0.049	1.011	0.315	0.952
X1_6 (Salta)	-0.301	0.072	0.789	0.740
X1_7 (Insval)	1.603	1.259	0.262	4.967
X1_8 (Lev)	0.723	0.160	0.689	2.061
X1_9 (Finance)	-0.347	1.906	0.167	0.707
X1_10 (Freec)	0.000	3.993	0.046	1.000
X1_11 (Oship)	-0.906	0.592	0.442	0.404
X1_12 (%5own)	-8.547	6.271	0.012	0.000
X1_13 (ROA)	0.002	0.001	0.981	1002

Note: Bold text indicates a significant variable at $p < 0.05$.

In logistic regression, the whole model test was used to compare the values between the initial -2 log likelihood which was 141.402 and the next -2 log likelihood which was 44.024. The values gained from the test showed a significant decrease. It signifies that the second regression model was better. The sizes of the independent variables' effects could be identified from the coefficient of determination. The coefficient of determination of the logit model measured using Cox & Snell R was 0.615. This shows the independent variables pressure, opportunity, rationalization, capability, and arrogance were able to explain 61.5% of the variation in the dependent variable fraudulent financial reporting. In addition, this model was also able to correctly classify 91.2% of the data. The goodness-of-fit test on the model in this research used the Hosmer-Lemeshow test to see whether the regression model created was able or was said to be worthy to predict the relationships between the independent variables and the dependent variable. The value obtained was 0.181 (> 0.05) which means that the model was able to predict the relationships between the research variables.

The research results show that only pressure, opportunity, and capability were able to influence fraudulent financial reporting. From 13 proxies used to measure pressure, there were only two proxies found to have significant effects, namely free cash flow and manager's shareholding of at least 5% (Table 4). This indicates that the higher the free cash flow leads to the higher the chance of committing fraud. For instance, PT Wilmar Cahaya Indonesia Tbk., which in 2017 showed a fraud indication, had a higher free cash flow than that of PT Siantar Top Tbk., which showed no fraud indications. This shows that a company with a higher free cash flow would be more likely to commit fraud than a company with a lower free cash flow.

Fraudulent acts in financial reporting will be more prevalent with the increase in the free cash flow of a company (Bukit & Iskandar, 2009). A high FCF value will trigger a conflict of interest between the managers and the shareholders. In the event of an excessively high FCF value, the managers will be pressured to make use of and lavish the FCF which leads to inefficiencies in the company (Smith & Kim, 1994). This is because a high FCF value is an indicator of poor manager's performance (Budiardi, 2019). To lower the FCF value, the managers would purchase goods/services which are unnecessary or irrelevant with the company's activities, such as buying cars, paintings, or office equipment and building a rest area (Ang, Cole & Lin, 2000), and this would pave the way to fraud.

Conversely, the proxy manager's shareholding of 5% had a negative effect on fraudulent financial reporting (Table 4). This is at odds with the study by Skousen, Christopher, & Wright (2009) and Wahyudi & Pawestri (2006), which shows that the manager's percentage of shareholding would increase a company's chance of committing fraud through financial reporting. However, it supported the research by Deli & Gillan (2000), which states that manager's shareholding aligns the incentives of the management and the shareholders, giving rise to the likelihood of manager's shareholding reducing fraud through financial reporting in a company. When the managers hold some shares of the company, the company has been co-owned by the managers. The interests of shareholders and managers which previously were incongruent now becomes congruent to the managers' shareholding (Prasetyo, 2014). Hence, the potential of the managers committing fraud to prosper themselves will only naturally decrease.

Table 5. Logistic Regression Results on Opportunity Variable

Variabes	B	Wald	p-value	Exp (B)
X2_1 (Receivable)	2.381	0.883	0.347	10.821
X2_2 (Inventory)	-8.008	4.307	0.038*	0.000
X2_3 (Bdout)	0.041	0.545	0.460	1.042
X2_4 (Audcom)	-3.645	6.330	0.012*	0.026
X2_5 (Audsize)	-0.295	0.033	0.856	0.744
X2_6 (IND)	-0.148	2.294	0.130	0.863
X2_7 (Expert)	-2.410	3.887	0.049*	0.090
X2_8 (CEO)	-0.321	0.043	0.836	0.725
X2_9 (Totalturn)	36.761	0.000	0.988	9E+15

Note: * indicates a significant variable at $p < 0.05$.

Table 5 shows that from the nine proxies of opportunity, there were only three proxies have significant and negatively influential to fraudulent financial reporting (X2_2, X2_4, and X2_7). This means that the greater the inventory change (X2_2), the audit committee's supervision (X2_4), and expertise involvement (X2_7) lead to the lower the risk of fraudulent financial reporting. This is in contrast to the fraud pentagon theory which states that opportunity has a positive effect on fraudulent financial reporting.

Inventory change ratio in relation to sales was predicted to have a positive effect on fraudulent financial reporting on the account that an inventory-dominated current asset composition tends to incentivize a company to commit fraud. However, in this research, the ratio of the inventory change's effect was negative. This was supported by the descriptive statistical results which show that the average inventory change ratio in relation to sales of fraudulent companies was lower than that of non-fraudulent companies. This indicates that inventory change ratio reduced fraudulent financial reporting. That could be as a result of a requirement of inventory disclosure in financial statements must be in concrete and detailed way (Sabrina et al., 2020). If the management conducted manipulation in the company's inventory disclosure, external parties would affix the company with a negative image.

Supervision by an audit committee was believed to have a positive effect on fraudulent financial reporting because the management has the ability to manipulate some information on the deeds that have been conducted without other parties' knowledge (Faidah & Suwanti, 2018). An effective supervision turned out to still be unable to reduce the likelihood of fraudulent financial reporting by the management (Listyawati, 2016). However, the opportunity proxy audit committee's supervision (X2_4) in this research had a negative value (Table 5), showing that supervision by the audit committee could reduce fraud. This indicates that supervision by the audit committee would lower the chance of the management conducting fraudulent financial reporting. This was because the management had known about the responsibilities it must carry out, with or without periodical supervision by the audit committee (Putra, Puspa & Herawati, 2014). One of the tasks of an audit committee is to support the board of commissioners in supervising the management in the financial reporting process (Ayu & Septiani, 2018). The management is obliged to have a high level of compliance with the rules prevailing in the company with regard to financial statement presentation. It therefore, supervision by the audit committee could reduce the likelihood of fraudulent financial reporting (Ruchiatna, 2020).

Thirdly, the proxy expertise involvement (X2_7) was believed to have a positive effect on fraudulent financial reporting since the expertise one owns can be used to manipulate the company's financial statements. However, this research shows that expertise involvement (X2_7) was negative in effect, showing that its presence could reduce fraud. If one of the committee members had expertise in financing, the committee would be able to perform supervision of financial statement as well as its other tasks effectively (Prasetyo, 2014). Financing expertise involvement has been obliged by Regulation of the OJK No. 55/PJOK.04/2015, which states that a committee must have at least one member with expertise in accounting, eliminating the line between companies which truly employ financing expertise and those which employ financing expertise only for rule compliance purpose (Listyawati, 2016).

This research did not support the fraud pentagon theory, which states that opportunity has an effect on fraudulent financial reporting. This research is similar with Ariyani et al. (2015); Oktarigusta (2017); Nasution (2019); and Ferica (2019), which states that opportunity have no effect on fraudulent financial reporting. However, it strays away from Sihombing & Rahardjo (2014); Aprilia (2018); Agustina & Pratomo (2019); and Hidayatun & Juliarto (2019), which states just the opposite. Hence, the hypothesis stating that opportunity has an effect on fraudulent financial reporting was rejected.

Table 6. Logistic Regression Results on Rationalization Variables

Variables	B	Wald	p-value	Exp (B)
X3_1 (Audchang)	4.484	4.667	0.031*	88.627
X3_2 (Audreport)	-4.287	0.033	0.857	0.014
X3_3 (Tacc)	0.000	2.057	0.152	1.000

Note: * indicates a significant variable $p < 0.05$.

Table 7. Logistic Regression Results on Rationalization Variables

Variables	B	Wald	p-value	Exp (B)
X4 (Director Changes)	-137.829	0.000	0.989	0.000
X5_1 (CEO's Picture)	-0.240	0.277	0.599	0.787
X5_2 (Dualism Position)	2.407	3.540	0.060	11.100

Table 6 shows that the variable rationalization has three proxies, but only one of the three auditors switching (X3_1) had a p-value < 0.05 . It signifies that the variable rationalization had an effect on fraudulent financial reporting. Auditor switching had a positive value and it was found that the chance of a company committing fraud when an auditor switching took place was 88.63 times higher. This indicates that the more frequently auditor switching occurred in a company, the greater the chance was for the company to engage in fraud. This research is in line with Sunardi & Amin (2017); and Ozelik (2020), which states that a company that freely switches its auditors is more likely to engage in fraudulent financial reporting. Auditor switching may be practiced to cover an event of fraud and to remove the fraud trail which previously has been audited by the former auditor (Siregar, 2019). Auditor switching can also trigger a transition period and a stress period in a company (Sihombing & Rahardjo, 2014). If a company conduct auditor switching in every period, then this indicates that the company's management has committed fraud.

Auditor switching in a company also leads to audit failure and increased litigation (Skousen, Christopher, & Wright, 2009). A fraudulent company has a variety of ways to rationalize its actions for the actions to be accepted and considered normal (Zimbekman, 2014). The better company's capabilities to rationalize or consider right a wrongdoing, the greater its capacity is to conduct fraud. In essence, the management has realized that its actions are a form of fraud, but it believes that it has the right and that it has been of service and has largely contributed to the company.

This research supports the fraud pentagon theory, which explains that the variable rationalization has an effect on fraudulent financial reporting. The result shows that the more often auditor switching occurs in a company, the greater is the chance of the company engaging in fraud. This result is consistent with Skousen, Christopher, & Wright (2009); Putri (2017); Oktarigusta (2017); Sasongko & Wijyantika (2019). However, it differs from research of Sihombing & Rahardjo (2014); Ardiyani & Utaminingsih (2015); Aprilia (2018), Yesiariani & Rahayu (2017); and Agustina & Pratomo (2019), which has demonstrated that rationalization have no effect on fraudulent financial reporting. Therefore, the hypothesis which states that rationalization has an effect on fraudulent financial reporting was rejected.

Table 7 shows the absence of a significant relationship between capability and fraudulent financial reporting. This was presumably because director turnover in a company usually is backed by a strong, clear reason and is disclosed in the company's financial statement (Agustina & Pratomo, 2019). Director turnover in a company is likely caused not by fraud but by the company's wish to improve the director performance by replacement with more competent individuals. Director turnover is also considered normal by Regulation of the OJK No. 33 of 2014, which stipulates that every change in the board structure must be reported in writing. This research did not support the fraud pentagon theory, which states that capability has an effect on fraudulent financial reporting. The possible explanation for this finding is that it is presumed that the companies wished to improve companies' performances by replacing some directors with more competent individuals. This finding is in support of the research by Sihombing & Rahardjo (2014); Annisya et al. (2016); Hartoyo (2016); Oktarigusta (2017); Aprilia (2018); Yesiariani & Rahayu (2017); Setiawati & Baningrum (2018); and Agustina & Pratomo (2019), which states that capability does not influence fraudulent financial reporting. Accordingly, the hypothesis saying that capability has an effect on fraudulent financial reporting was rejected.

Similarly, the variable arrogance has no significant effect on fraudulent financial reporting, showing that the number of photographs in the annual report and position dualism did not exert any influence. The number of CEO's photographs in an annual report have no affect the company's

fraud. This insignificance of effect in this research was probably because the inclusion of CEO's photographs in an annual report was considered normal as a form of transparency or impression management. CEO's photographs were also used to inform the board structure of the company as well as the leader's responsibility for all the reporting the company conducts. Additionally, there were some companies which exclude the photographs of the board members and the CEO in companies' annual reports. Therefore, the number of photographs could not be used as a reference of whether a company conducted fraud or not. The number of photographs in an annual report could not reflect whether or not a company committed fraud.

Additionally, position dualism has no effect on fraudulent financial reporting. This could be because a CEO who practiced position dualism used his/her positions to improve the company's performance and to maintain his/her own performance in keeping his/her positions in the company. Another factor was that the board of commissioners had maximally played its role in supervising the CEO's performance, closing the way for the CEO to abuse his/her power to conduct fraud. Position dualism in a company is allowed and is considered normal by Regulation of the OJK No. 33 of 2014, which states that members of a board of directors and a board of commissioners are allowed to have a dual position in at maximum two issuers or companies. This finding shows that the more positions a board member holds the less likely the company would engage in fraud through financial reporting.

This result did not support the fraud pentagon theory which states that arrogance has an effect on fraudulent financial reporting. This result is in line with Aprilia (2017); Ulfah, Nuraina, & Wijaya (2017); Agustina & Pratomo (2019); Sasongko & Wijayantika (2019); and Khoirunnisa, Rahmawaty, & Yasin (2020). Based on the description above, the hypothesis stating that arrogance has an effect on fraudulent financial reporting was rejected.

CONCLUSION

This research focused on the effects of pressure, opportunity, rationalization, capability, and arrogance on fraudulent financial reporting in fraudulent and non-fraudulent companies in Indonesia in the period 2009–2018. The results show that pressure, opportunity, and rationalization influenced fraudulent financial reporting just as stated by the fraud pentagon theory. Reflecting on this research's results, investors are expected to be more careful in making investments in the right companies that are chosen based on the consideration of the influencers of fraudulent financial reporting. For other stakeholders including the management, these findings may serve as warning signs of potential fraudulent financial reporting to reduce the risk of fraud.

Where previous research was predictive in nature, this research contributes to the literature by examining the applicability of the fraud pentagon theory and by the discovery of what factors influence fraudulent financial reporting through a comparison of companies which did engage in fraud and companies which did not. Unfortunately, not all companies that the OJK considered as showing fraud indications were included in this research because of the lack of financial statements of the companies. Future research may increase the sample size by extending the period of observation and including all companies with fraud indications once financial statement data become available. This research found that two variables comprising of capability and arrogance, have no any effect on fraudulent financial reporting. Accordingly, this research failed to support the fraud pentagon theory. Future research may use other proxies to measure these two variables and compare their effects with the proxies which had been used.

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