Analysis of Factors Influencing Fraudulent Financial Statements: Pentagon Fraud Perspective and Managerial Ownership

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Abstract. Financial statement fraud poses a significant threat to the integrity of financial reporting and investor confidence so will become a threat to sustainability and business continuity. This study aims to analyze the factors that influence fraudulent financial statements from the perspective of the Pentagon fraud theory and managerial ownership. The fraud pentagon model consists of financial target, financial instability, independent commissioners, receivable related party transactions, debt related party transactions, change of auditor, change of directors, number of CEO photos and adding other variable managerial ownership. The population of this research is 108 companies on the IDX for the 2011-2020 period using a purposive sampling method. The sample consists of 54 fraud companies and 54 non-fraud companies. The research results prove that receivables related party transactions and changing auditors have positive effect on financial statement fraud. Meanwhile, the variables of financial target, financial instability, independent commissioner, debt related party transactions, change of directors, number of CEO photos and managerial ownership have no effect on financial report fraud.
Keywords: Fraudulent Financial Statements, Pentagon Fraud Theory, Managerial Ownership, Financial Reporting

1 Introduction

The prevalence of fraudulent financial reporting has become a significant concern for businesses, regulators, and the public. Instances of fraud, such as the cases of Enron, WorldCom, and Lehman Brothers, have led to the erosion of public trust and substantial financial losses. In Indonesia there exists phenomenon of fraudulent financial reporting by PT Garuda Indonesia company. Financial statement fraud can mask a company's true financial health, leading to poor decision-making and misallocation of funds. This can prevent investments in sustainable technologies, processes, and practices that are necessary for long-term sustainability. Comprehending the elements that lead to fraudulent financial reporting is essential for formulating effective prevention and detection strategies.

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Multiple research methodologies exist to investigate the determinants of financial fraud, specifically the triangle fraud model, diamond fraud model, and pentagon fraud model (pressure, opportunity, rationalization, capability, and arrogance). The examination by [1] found that pressure positively influences fraudulent financial reports, [2] and [3] provide the same results. However, [4] indicates that pressure does not influence financial statement fraud. In the opportunity study by [5], it was proven that It positively influenced financial statement fraud. [3] provide the same results in Malaysia but have no effect in Indonesia. Research on rationalization indicates that alterations in auditors elevate the incidence of financial report fraud, as evidenced by the findings of [4, 6, 7]. However, different results were found by [1] that The alteration of the auditor did not influence the fraudulent financial statements. In terms of capability, changing high-ranking directors will increase the level of financial report fraud, this has been proven by research [8, 9, 6]. However, research by [10] stated that changes in directors do not affect financial statement fraud. Arrogance is the final element of the fraud pentagon. The research results of [6] and [1] state Arrogance positively influences financial statement fraud, while [2] gives the opposite result. Some of the research results above show that there are inconsistencies in the research results for each variable. This finding shows that the research statement is that not all pentagon fraud model research has a positive effect on financial reporting fraud. So that this study is still interesting to continue, so the aim of this study is to reassess the determinants of financial statement fraud.

This research offers several unique contributions. First, it provides a comprehensive analysis of the pentagon fraud theory and its applicability within the framework of fraudulent financial reporting. Second, it examines the role of managerial ownership, which has been relatively understudied in the existing literature on fraud. [11]. This research also uses related party transaction variables that are rarely used in research related to financial statement fraud [8].

Fraud occurs when the company's financial targets are not met [1] so that management manipulates financial reports. The findings of the study conducted by [2] show that financial targets have a positive effect on the condition of financial reports, the higher the financial target, the greater the possibility of management manipulating financial reports. The hypothesis is H1: Financial targets have a positive effect on financial report fraud.

The success of management in maintaining financial stability provides satisfaction for company owners so that management will get high incentives. Therefore, the instability of the company's financial status will increase the likelihood of fraud. Financial stability is measured by changes in assets. Changes in assets can detect the possibility of fraud. This assertion is supported by studies [1, 3, 12]. The hypothesis is H2: Financial instability has a positive effect on financial statement fraud.

Ineffective monitoring denotes a corporation characterized by inadequate control. Weak control by the board of commissioners will provide greater opportunities for fraud to occur [13]. Ineffective monitoring is a factor in fraudulent financial reports as proven by [14-16], so based on previous research, hypothesis H3: Ineffective monitoring has a positive effect on financial report fraud.

The essence of the industry represents the optimal characteristics of a company within that sector. The nature of this industry is unique because of the subjective measurements and estimates of certain accounts [17] such as related party transactions that cause conflicts of interest. Related-party transactions have a high chance of financial fraud. [18] found that one in ten audit weaknesses was the auditor's failure to identify related party transactions. These transactions provide opportunities for management to take personal advantage that will harm external parties [19]. Based on the results above, hypothesis H4 is proposed: Related party transaction receivables have a positive effect on financial statement fraud, and H5: Related party transaction payables have a positive effect on financial statement fraud.

Changing auditors increases the level of information asymmetry according to agency theory. Numerous aspects of the company that new auditors and company owners don't know. [20] proves that management changed auditors to eliminate the discovery of indications of fraud by the former auditor. Increased frequency of auditor changes correlates with a heightened propensity for financial statement fraud. This is in accordance with research by [4], [6] and also [21]. So, hypothesis H6: Change in auditor positively influences financial statement fraud.

The change of directors gives a signal that the old directors are not performing well. [23] found that changing directors triggers fraud because the company is in a period of stress when adjusting to new directors. The position as director makes it very easy to commit financial report fraud. This aligns with the conclusions of [6], [16] and [24]. Therefore, hypothesis H7: Change in director positively influences financial statement fraud.

An individual's arrogance is shown through their narcissistic tendencies. A person's level of arrogance increases in proportion to their narcissism. The quantity of CEO photographs in financial reports signifies that financial reports are not important but only want to show their position [1]. Feelings of superiority show that their power can influence company regulations and policies [3]. This aligns with the findings of studies from [1], [6], and [25] which state that the quantity of CEO photographs exerts a substantial beneficial influence on financial statement fraud. Hypothesis H8: The CEO's image positively influences financial statement fraud.

Managerial ownership refers to the percentage of management's share ownership of the company's total outstanding shares. Share ownership aligns managers' interests. Managerial ownership minimizes managers taking the opportunity to commit fraudulent acts. Research by [26] shows that managerial ownership adversely impacts financial report fraud. Hypothesis H9: Managerial Ownership has a negative effect on financial statement fraud.

2 Research method

This research population comprises companies listed on the Indonesia Stock Exchange. The sampling method employs purposive sampling based on certain criteria for companies that publish financial reports for the period 2010-2020 and companies that are subject to sanctions (OJK) no. 9.E.2 regarding significant transactions and alterations in primary company operations and VII.G.7 concerning guidelines for presenting financial reports. The comparison sample is a non-fraud company, engaged in a similar industry and with almost the same asset size. Independent variables are: (1) Financial targets, measured by ROA. (2) Financial instability, measured by changes in assets. (3) The proxy of effective monitoring is independent commissioners. (4) Nature of the industry, measured by related party transactions, namely transactions (a) receivables and (b) payables. (5) Dummy variable for change of auditors. (6) Directors change measured by a dummy variable [10]. (7) Arrogance, measured by the number of CEO Images. and (8) Proxy of managerial Ownership is the ratio of management ownership inside the company.

3 Results and discussion

Table 1. Test for the coefficient of determination

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	103.666[a]	.341	.455

The value of the nagelkerke R square is 0.512. Thus, it can be interpreted that the independent variables presented FinSta, FinTar, EffMon, NatInd, Ratin, Capab, RecRPT, Arrog, and MngOwn can explain the dependent variable as a proxy of fraud financial report by 45.5%, while 54.5% is explained by other variables which were not studied

Table 2. T-test results

	B	S.E.	Sig.	Result
FinSta	.000	.000	.816	Rejected
FinTar	.000	.000	.071	Rejected
EffMon	.000	.000	.814	Rejected
Ratin	3.369	1.140	.003	Accepted
Capab	.570	.509	.263	Rejected
RecRPT	.000	.000	.002	Accepted
PayRPT	.000	.000	.974	Rejected
Arog	-.101	.076	.182	Rejected
MngOwn	.000	.000	.028	Rejected
Constant	-.371	.611	.543	

The t-test table indicates that the calculated significance value for the variable of financial stability is 0.816, so the hypothesis is unsupported. The variable of financial target has a significance value of 0.071, the hypothesis is not supported. The variable ineffective monitoring has a significance value of 0.814, so the hypothesis is not supported. The receivables-related party transactions variable has a significance value of 0.002 and a coefficient of 0.000, so it is supported. The variable about debt-related party transactions has a significance value of 0.974, the hypothesis lacks support. The variable of rationale has a significance value of 0.003 and a coefficient of 3.369, so the hypothesis is accepted. The capability variable has a significance value of 0.263 so the hypothesis is not supported. The arrogance variable has a significance value of 0.182 so it is not supported and the variable of managerial ownership has a significance value of 0.028 and a coefficient value of 0.000 so the hypothesis is not supported.

3.1 Hypothesis 1

Financial targets do not positively influence financial report fraud. A high ROA means that the corporation can generate substantial profits from the use of company assets. Company owners who give management a high ROA target will put management under high pressure to achieve this target. Management who can meet the targets of the company owner will receive a bonus in the form of incentives. These rewards make management have high motivation to meet targets. Thus, the higher the ROA, the higher the tendency to do financial statement fraud.

However, the findings of this study show that there is no influence, which means that ROA is not a significant determinant in financial statement fraud. The findings of this research indicate that management does not consider the ROA targets given by management owners as pressure. This target is still considered reasonable so there is no high pressure. ROA is also not the only measure of a company's performance in achieving financial targets. ROA is only one indicator to measure financial performance among many other financial indicators. Apart from ROA, many other factors determine whether a company's financial performance is good or bad. One of them is ROE. This study aligns with the findings of [10] and [5] which show that ROA does not positively affect on financial statement fraud. The research explains that when a company sets high financial targets, it was in a robust financial

state in the preceding year and had utilized its assets judiciously. When the company is in good financial condition, management does not need to commit financial report fraud. Therefore, management will not commit financial statement fraud.

This study is in line with the conclusions of [10] and [5] which state that ROA does not positively affect financial statement fraud. The research explains that when a company sets strong financial targets, it was in good financial condition in the previous year and had used assets wisely. When the company is in good financial condition, management need not engage to commit financial report fraud. Therefore, management will not commit financial statement fraud.

3. 2 Hypothesis 2

Financial stability conditions are needed by companies because according to [1], financial stability are conditions when a company can meet current and future needs, whether emergency needs or not. That way, it can be concluded that the company is in a safe condition. Therefore, company owners demand that they always maintain financial stability. These demands put pressure on management to fulfill them so that management gets incentives in the form of bonuses or promotions. With these demands and incentives, management is also under pressure. This pressure provides encouragement to commit financial statement fraud.

However, the research that has been conducted does not show a significant positive influence of financial instability as proxied by A change with financial statement fraud. Financial instability does not make management directly manipulate financial reports because this will make things difficult for the company in the future. By manipulating financial reports when the financial situation is unstable, the company will face higher demands in the future. Financial instability gives a signal that the company's financial condition is not good. Therefore, management will not commit financial report fraud when financial instability occurs.

In addition, the stability of financial as proxies of changes in assets in the research is not the only indicator to measure the level of a company's financial security. Changes in assets cannot be the only factor that indicates a company's level of financial security because each type of company has a different strategy for managing the number of assets. Each company has different characteristics and goals so asset management will also be different.

The conclusion of this research is in line with the research conducted by [5, 6, 10]. These three research results state that financial instability does not positively affect financial statement fraud. According to [6], financial instability cannot be a factor in financial statement fraud because manipulating financial reports when the company's finances are unstable, will cause difficulties for the company in the future because the company will face a situation where they need investment of funds from internal parties. or external.

3.3 Hypothesis 3

The results of this research show that the presence of independent commissioners does not influence companies to commit financial report fraud. The number of independent commissioners has been regulated by OJK number 57 of 2017 in article 19. This article states that the independent commissioner's number is at least 30% of the total members Board of Commissioners. In the data collected in this research, it was found that 12 companies had less than 30% independent commissioners so they did not comply with the regulations made by the OJK. Apart from that, there are 62 companies whose independent commissioners number is exactly 30% and 34 companies whose number of independent commissioners is above 30%. Based on this data, it can be concluded that the majority of companies only meet

the minimum requirements for the number of independent commissioners created by the OJK so the level of compliance is only at a minimal level. Research [22] and [27] also strengthen this finding. This is also supported by [28] who explains that companies only comply with OJK regulations regarding the minimum number of independent commissioners. So, independent commissioners are only created to comply with applicable regulations so their existence does not guarantee transparency in the presentation of financial reports.

3.4 Hypothesis 4

Receivables transactions with related parties have positively affected financial statement fraud. The results of this research are in line with the agency theory that asymmetric information that occurs when related party transactions can increase the company's opportunity to commit financial statement fraud. Apart from asymmetric information, conflicts of interest also occur because related party transactions cause management to make decisions subjectively. Therefore, high levels of related party transactions will cause the company's opportunities to manipulate financial statements to be greater. Receivables transactions with related parties are transactions with the highest amounts. When related party transactions are high amounts, the possibility of financial statement fraud will also be high. According to [29], this happens because transactions with special parties are transactions that are not independent so there is a subjective influence when carrying out transactions.

Accounts receivable is a financial instrument that is often misused because it is closely related to cash. Management can create fake receivables transactions with related parties to commit financial statement fraud. These receivable transactions are used to hide the company's poor financial condition or to hide fake transactions. Thus, receivables transactions with high levels of related parties indicate that management is committing fraud. This is in line with research by [3] and [30] show that receivables transactions with special parties have an effect positively on financial statement fraud.

3.5 Hypothesis 5

Hypothesis 5 states that debt transactions with related parties have an effect positively on financial statement fraud. However, hypothesis 5 is not accepted. According to previously collected data, debt transactions with related parties do not occur in large numbers. Management will not commit financial statement fraud by increasing debt because debt is a liability instrument that shows the company's obligation to make repayments. High debt, especially to special parties, will give a negative view to external parties because the company is deemed unable to finance its own operational activities and therefore requires financial assistance from special parties. Thus, debt with high special parties will give a negative image to the company so that management does not commit financial statement fraud through this.

3.6 Hypothesis 6

Hypothesis 6 that changing auditors affects positively financial statement fraud is accepted. The results of this research prove the Agency Theory that the change of auditor occurs because of a conflict of interest between management and the auditor who is tasked with detecting fraud. Changing auditors causes high information asymmetry because there are still many things in the company that the new auditor and company owner do not know. A change of auditor indicates a conflict between the company and the external auditor. External auditors found traces of management fraud and could not compromise on the unfairness of

the financial statements. By changing external auditors, management can hide traces of fraud that has been committed previously. Changing auditors requires various kinds of adjustments and a long understanding. New auditors tend not to know the company very well so that financial statement fraud will be easier for management to commit.

Management will replace the auditor when the auditor finds irregularities in the financial statements that will lead to manipulation of the financial statements. The old auditor will follow up on this so that financial statement fraud can be detected, while the new auditor does not yet know about these irregularities in more depth. The new auditor's ignorance could be one way for management to hide traces of fraud that has been committed. Management becomes freer to commit financial report fraud. Therefore, changing auditors can be an indication that management has committed financial statement fraud. Research by [4,6,22] state that there is a significant positive influence between changing auditors on financial statement fraud. [4] explains in his research that changing auditors are used to cover up management errors when irregularities are found in the financial statements in the previous audit.

3.7 Hypothesis 7

Change of directors has a positive effect on financial statement fraud is not accepted. This research did not find any influence between changing directors and financial statement fraud. This happened because the change of directors was carried out to improve company performance, not to cover up fraudulent financial reports. Changes in directors are always carried out for clear reasons and are explained in detail in the annual report. The replacement of directors has also been strictly regulated through OJK Regulation no. 33 of 2014, so that the replacement is according to standard. Therefore, companies that change directors do not indicate fraudulent financial reporting because this is something that usually happens in a company. This is in line with research by [31,32] explaining that changing directors has no effect on financial statement fraud because changing directors is usually supported by strong and clear reasons and is disclosed in the financial reports.

3.8 Hypothesis 8

Hypothesis 8 that the number of CEO photos has a positive effect on financial statement fraud is not accepted. This is because in the annual report, the presence of the CEO's photo is a complement so that the annual report does not look monotonous. The CEO photo serves to provide information to external parties about who the CEO is in the company. A person's face is generally easier to remember than information in the form of a name. Therefore, the CEO photo is very useful to help external users of financial reports. Thus, a large number of CEO photos do not indicate fraudulent financial reporting. These results are consistent with the findings of [7,13]. The results of their research explain that the presence of the CEO's photo in financial reports is only intended to inform investors regarding the directors who are responsible for the continuity of a company. Thus, the number of CEO photos cannot be a definite measure to show whether there is fraudulent financial reporting or not.

3.9 Hypothesis 9

Based on the test results, empirical evidence was obtained that Hypothesis 9 was not supported by a positive coefficient. This means that the greater the proportion of management share ownership, it does not affect the possibility of financial statement fraud. This means that managerial ownership is unable to be a factor preventing financial statement fraud. The results of this research are not in line with agency theory where principals and agents each

have different interests. Differences in interests make management take actions that are contrary to the interests of company owners. The existence of managerial share ownership is able to place managers in the position of company owners, not just managers. This can align the interests between management and company owners.

The results of this research indicate that it is suspected that managerial ownership is unable to prevent financial statement fraud. This means that managerial ownership cannot be a form of good corporate governance. The higher managerial share ownership, the less likely it is to manipulate financial reports. The results of this research are not in line with research by St [33] which shows that managerial ownership is able to weaken the occurrence of financial report fraud. The higher the percentage of managerial ownership in the company, the smaller the opportunity for financial statement fraud to occur. This is because managers will be more careful in making decisions that will affect the company and its shareholders as well as themselves. Through managerial ownership, managers can be motivated to increase the value of the company which works in accordance with the interests of shareholders.

4 Conclusion and recommendation

This research paper has provided a comprehensive analysis of the factors influencing fraudulent financial statements, with a focus on the Pentagon Fraud Theory and the role of managerial ownership. Fraudulent financial statements effects sustainability of companies, financial markets, and economies. By understanding the key drivers of fraud, including pressure, opportunity, rationalization, capability, and arrogant, as well as the impact of managerial ownership, organizations can implement targeted measures to prevent and detect fraudulent activities. The findings of this research are that: Special Party Receivables Transactions are a driving factor for management to commit financial statement fraud. Likewise, changing auditors can trigger management to commit financial report fraud. However, financial targets, financial instability, ineffective monitoring, special party debt transactions, change of directors, CEO image and managerial ownership are not factors that motivate management to commit financial report fraud.

The implications of the results of this research contribute to strengthening agency theory in proving that information asymmetry and conflicts of interest between two parties can cause financial statement fraud and help the government in making policies related to financial statement fraud. The suggestions for this research are to add or replace the pentagon fraud variable proxy to get appropriate and accurate results and add financial sector companies to further expand the research sample. Meanwhile, the limitations of this research are that several proxy variables are not able to describe the variables accurately, the criteria for non-fraud companies are still general and this research cannot generalize.

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Table

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4,014	8	0,856

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	103.666[a]	.341	.455

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FinSta	.000	.000	.054	1	.816	1.000
	FinTar	.000	.000	3.263	1	.071	1.000
	EffMon	.000	.000	.055	1	.814	1.000
	Ratin	3.369	1.140	8.728	1	.003	29.042
	Capab	.570	.509	1.252	1	.263	1.768
	RecRPT	.000	.000	9.786	1	.002	1.000
	PayRPT	.000	.000	.001	1	.974	1.000
	Arog	-.101	.076	1.778	1	.182	.904
	MngOwn	.000	.000	4.829	1	.028	1.000
	Constant	-.371	.611	.369	1	.543	.690

a. Variable(s) entered on step 1: FinSta, FinTar, EffMon, Ratin, Capab, RecRPT, PayRPT, Arog, MngOwn.