

**How to Cite:**

Andriani, K. F., Budiarta, K., Sari, M. M. R., & Widanaputra, A. A. G. P. (2022). Fraud pentagon elements in detecting fraudulent financial statement. *Linguistics and Culture Review*, 6(S1), 686-710. <https://doi.org/10.21744/lingcure.v6nS1.2145>

# **Fraud Pentagon Elements in Detecting Fraudulent Financial Statement**

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**Abstract---**Public companies that are supposed to provide transparent and accountable information to outside parties, sometimes still hide facts and information that have a bad influence on their company's reputation. Public companies in Indonesia in carrying out their business activities have been specifically regulated and supervised by an independent institution, called the Financial Services Authority (OJK). OJK itself has issued several regulations on the presentation of financial statements, such as regulation no. IX.E.2 and rule number VIII.G. This study aims to detect financial statement fraud with the fraud pentagon model. Researchers use elements of financial stability, external pressure, personal financial need, financial target, nature of industry, ineffective monitoring, quality of external auditor, change in auditor, change of directors and frequent number of CEO's picture as independent variables on the ability to detect financial statement fraud as dependent variables. This study uses a sample of fraud companies that are subject to sanctions and cases of the Financial Services Authority (OJK) related to OJK regulations VIII G. 7 and IX. E. 2 in 2015-2019. The company sample consists of 31 fraudulent companies and 31 non-fraud companies.

**Keywords---**arrogance, competence, financial statement fraud, fraud pentagon, opportunity, pressure, rationalization.

## Introduction

The 12th Global Fraud Survey by Ernst & Young in 2011 explained that fraud has become one of the most problematic phenomena in the business world or companies around the world (Priantara, 2013). AU Section 316 paragraph 06 explains that fraudulent financial reporting can be in the form of manipulation, falsification or alteration of accounting records, misrepresentation or intentional omission of financial statements, and misapplication of accounting principles relating to the amount, classification, presentation, or intentional disclosure. Financial statement fraud cause the financial information presented by the company to be irrelevant and cause material misstatements that can be misleading for users of financial statements (Ruvio & Shoham, 2016; Senyuz & Hasford, 2022).

Association of Certified Fraud Examiners (ACFE) 2020 states that financial statement fraud is the most expensive type of fraud so far, with an average loss of USD 954,000. This is an increase from the results of the ACFE study in 2018 which showed the average loss value due to financial statement fraud of USD 800,000. Data from the Association of Certified Fraud Examiners (ACFE) Nation Asia Pacific in 2020 states that Indonesia ranks first in fraud cases out of 198 fraud cases that occurred in the Asia Pacific region (Kliuchnikova & Pobegaylov, 2016; Head & Ries, 1999).

In fact, public companies that are supposed to provide transparent and accountable information to outsiders, sometimes still hide facts and information that have a bad influence on their company's reputation. Public companies in Indonesia in carrying out their business activities have been specifically regulated and supervised by an independent institution, called the Financial Services Authority (OJK). OJK itself has issued several regulations on the presentation of financial statements, such as regulation no. IX.E.2 regarding provisions regarding Material Transactions and Changes in Main Business Activities and regulation no. VIII.G.7 regarding Presentation and Disclosure of Financial Statements of Issuers or Public Companies. Regulation no. IX.E. 2 is needed in order to provide convenience for issuers or public companies in obtaining access to funding that is included in the criteria for material transactions while still paying attention to the protection of investors. Meanwhile, regulation no. VIII.G.7 is deemed necessary due to the change in the Statement of Financial Accounting Standards (PSAK) in the context of the PSAK convergence program to the International Financial Reporting Standard (IFRS) and to provide legal certainty for issuers and public companies in the presentation and disclosure of financial statements.

The number of cases that occur shows that financial statement fraud is still a big problem that must be overcome. This is quite worrying because fraud that occurs can make the company in a very vulnerable condition. ACFE Indonesia Chapter 2019 states that there is no institution or institution that is completely free from the possibility of fraud. The perpetrators of fraud also exist in all layers, both the upper and lower classes. Financial statement fraud cannot be underestimated and needs to get more serious attention by detecting or preventing the possibility of fraud so that it can avoid a very bad impact that results in losses and even bankruptcy of a company (Fiske et al., 2007; Imahori & Lanigan, 1989).

Therefore, pentagon fraud is a new view of the fraud phenomenon proposed (Crowe, 2010). The fraud pentagon is an advanced theory or refinement of the fraud triangle and fraud diamond. There are five elements that cause fraud in the fraud pentagon theory, namely pressure, opportunity, rationalization, competence, and arrogance. The first element that can detect financial statement fraud is pressure. Pressure causes a person to commit fraud. Pressure can take various forms including financial targets, lifestyle, economic demands, and others. According to SAS No. 99, there are four types of conditions that commonly occur in pressure that can lead to fraud. These conditions are financial stability, external pressure, personal financial need, and financial targets (Zhou & Kapoor, 2011; Ravisankar et al., 2011).

The second element that can detect financial statement fraud is opportunity. Opportunity is an opportunity that allows fraud or fraud to occur (Daljono, 2013). According to SAS No. 99 of 2002 states that the opportunity to commit fraud can be in the form of the nature of the industry providing the opportunity to commit fraud in terms of accounting complexity and estimation involving subjective considerations, ineffective monitoring causes less effective supervision of the company. According to the American Institute of Certified Public Accountants (2002) conditions in which the absence of effective controls, or the ability of management to override controls can provide opportunities for fraud to occur. External auditors are an opportunity that allows fraud to occur. Quality of external auditor or auditor quality is the probability of an auditor detecting and reporting the results of the activities being audited (Siddiq et al., 2017). The quality of external auditors can affect the detection of financial statement fraud, and therefore external auditors who have adequate skills and expertise in auditing financial statements are needed. The quality of external auditors is determined by differences in the selection of audit services from public accounting firms appointed by the company, namely KAP which is part of BIG 4. The quality of external auditors can affect the detection of financial statement fraud, and therefore external auditors who have adequate skills and expertise in auditing financial statements are needed. The quality of external auditors is determined by differences in the selection of audit services from public accounting firms appointed by the company, namely KAP which is part of BIG 4. The quality of external auditors can affect the detection of financial statement fraud, and therefore external auditors who have adequate skills and expertise in auditing financial statements are needed. The quality of external auditors is determined by differences in the selection of audit services from public accounting firms appointed by the company, namely KAP which is part of BIG 4.

The third element that can detect financial statement fraud is rationalization. Rationalization occurs because someone is looking for justification for his activities that contain fraud. This rationalization with an unethical mindset is carried out by management by frequently changing in auditors or changing auditors because when there is a change of auditors there will be a transition period in the company (Haqq & Budiwitjaksono., 2019). This is done to cover the risk of fraud committed so that the possibility of being known by the auditor is small because the new auditor does not understand the company's condition well (Agustina & Pratomo, 2019).

The fourth element that can detect financial statement fraud is competence or ability. Ability is said to be a person's position or function in the organization (Mohamed Yusof, 2016). Based on research conducted by Mafiana et al. (2016), stated that the fraudulent positions in question are the CEO, directors, and other division heads. Companies that commit fraud often make changes to the composition of the board of directors because at this time there is a stress period when the company's condition is unstable. In addition, the frequent changes in the composition of the board of directors reflects the political interest in the board of directors and as an effort to reduce the effectiveness of management performance because they have to adapt to the work culture of the new directors (Ardichvili et al., 2003; Sarason et al., 2006).

So that, the fifth element that can detect fraud in financial statements is arrogance or arrogance. According to Horwath & Lees (2010), arrogance is an attitude of superiority over the rights owned and feels that internal controls or company policies do not apply to him. Another opinion was conveyed by Aprilia (2017) that arrogance is the nature of a lack of conscience which is an attitude of superiority or the presence of arrogance in someone who believes that internal control cannot be applied personally. Frequent number of CEO's picture is the number of depictions of a CEO in a company by displaying profiles, achievements, photos, or other information about the CEO's track record which is described repeatedly in the company's annual report (Crowe et al., 2011).

While Inayanti & Sukirman (2016) stated that personal financial need had no effect on fraudulent financial reporting. Agusputri (2019); Avortri & Agbanyo (2020), who revealed that financial targets have a positive effect on fraudulent financial reporting. Meanwhile, Ulfah et al. (2017), stated that financial targets had no significant effect on fraudulent financial reporting. Research conducted by Agusputri (2019) revealed that the nature of the industry and ineffective monitoring had an effect on fraudulent financial reporting. Apriliana & Agustina (2017) reveal that the quality of external auditors has an effect on fraudulent financial reporting. Meanwhile, research by Novitasari et al. (2018) stated that the nature of industry and ineffective monitoring had no effect on the occurrence of financial statement fraud. Research conducted by Ulfah et al. (2017), shows that change in auditors has an effect on financial statement fraud. In contrast to research conducted by Agustina & Pratomo (2019), changes in public accountants partially have no significant effect on fraudulent financial reporting (Nala & Ravichandran, 2021; Talosa et al., 2021).

Septriana (2018) states that in banking companies the rationalization of total accruals on total assets has an effect on fraudulent financial reporting. Siddiq et al. (2017) stated that change of directors had an effect on financial statement fraud. While research by Ulfah et al. (2017) shows that the change of directors has no significant effect on fraudulent financial reporting. Bawekes et al. (2018), states that arrogance as proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. Meanwhile, research by Amarakamini & Suryani (2019), states that arrogance has no significant effect on financial statement fraud. Siddiq et al. (2017), stated that change of directors had an effect on financial statement fraud. While research by Ulfah et al. (2017) shows that the change of directors has no significant effect on fraudulent financial

reporting. [Bawekes et al. \(2018\)](#), states that arrogance as proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. Meanwhile, research by [Amarakamini & Suryani \(2019\)](#), states that arrogance has no significant effect on financial statement fraud. [Siddiq et al. \(2017\)](#), stated that change of directors had an effect on financial statement fraud. While research by [Ulfah et al. \(2017\)](#), shows that the change of directors has no significant effect on fraudulent financial reporting. [Bawekes et al. \(2018\)](#), states that arrogance as proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. Meanwhile, research by [Amarakamini & Suryani \(2019\)](#), states that arrogance has no significant effect on financial statement fraud. [Bawekes et al. \(2018\)](#), states that arrogance as proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. Meanwhile, research by [Amarakamini & Suryani \(2019\)](#), states that arrogance has no significant effect on financial statement fraud. [Bawekes et al. \(2018\)](#), states that arrogance as proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. Meanwhile, research by [Amarakamini & Suryani \(2019\)](#), states that arrogance has no significant effect on financial statement fraud ([Arief et al., 2021](#); [Sawaka K et al., 2020](#)).

### **Literature review and hypotheses development**

Management as an agent tries its best to manage the company on the trust of the shareholders so that management is required to provide good performance results. This condition makes agents face pressure and take various ways to get bonuses for the performance they have done. According to Statement of Auditing Standard (SAS) No. 99, it is explained that managers face pressure to commit fraud and manipulate financial statements when the financial stability or financial stability of the company is threatened by economic conditions, industry, and other situations. When the total assets of the company are quite large, the company is considered capable of providing maximum returns for investors. On the other hand, if total assets decrease or even become negative, it can make investors, creditors and decision makers are not interested, because the condition of the company is considered unstable, the company is considered unable to operate properly, and is not profitable ([Bawekes et al., 2018](#)). Financial stability as measured by the asset change ratio or asset change ratio, which is abbreviated as ACHANGE, has an effect on financial statement fraud. This is supported by research by [Bawekes et al. \(2018\)](#); [Siddiq et al. \(2017\)](#), which reveal that financial stability has an effect on financial statement fraud. Financial stability as measured by the asset change ratio or asset change ratio, which is abbreviated as ACHANGE, has an effect on financial statement fraud. This is supported by research by [Bawekes et al. \(2018\)](#); [Siddiq et al. \(2017\)](#), which reveal that financial stability has an effect on financial statement fraud. Financial stability as measured by the asset change ratio or asset change ratio, which is abbreviated as ACHANGE, has an effect on financial statement fraud. This is supported by research by [Bawekes et al. \(2018\)](#); [Siddiq et al. \(2017\)](#), which reveal that financial stability has an effect on financial statement fraud ([Wong, 2021](#); [Suwija et al., 2019](#)).

*H1: Financial stability has a positive effect on financial statement fraud.*

External pressure is the pressure faced by management to meet the expectations of third parties. The need to obtain additional debt or external sources of financing is a pressure often experienced by management to remain competitive, including financing research and development or capital expenditures (Skousen et al., 2009). External Pressure is calculated using the leverage ratio, which is the ratio of total debt divided by total assets (debt to assets ratio). According to Kasmir (2013), a company that has a high leverage ratio means that the company has large debt and has an impact on the risk of greater losses. The company's large debt is a source of pressure for management, because the risk of failing to repay the debt will also be higher. So companies need high profits to be able to convince creditors that they are able to pay their debts (Kasmir, 2013). This can be an impetus for management to carry out acts of manipulation. This statement is supported by research by Khoirunnisa et al. (2020); Novitasari & Ulum (2018) which states that external pressure affects fraudulent financial reporting.

*H2: External Pressure has a positive effect on financial statement fraud.*

Personal financial need is a condition when the company's finances are also influenced by the financial condition of the company's executives. The unclear separation between share ownership and company control will trigger managers to use company funds to fulfill personal desires (Siddiq et al., 2017). Personal financial need is measured by the ratio of the total shares owned by the institution to the total outstanding shares (OSHIP) which has an effect on financial statement fraud. This is supported by research by Faidah & Suwari (2018); Murtanto & Sandra (2019) which states that personal financial need affects financial statement fraud.

*H3: Personal financial need has an effect on financial statement fraud.*

Based on agency theory, fraudulent actions are influenced by the relationship between agent and principle, namely management is trying its best to manage the company on the trust of shareholders so that management is required to provide good performance results. This condition makes agents face pressure and take various ways to get bonuses for the performance they have done. The increase in the company's financial target is a pressure for management. Financial targets can be measured by return on assets (ROA). A high ROA in the previous period indicates that the company is able to generate high profits and is targeting higher profits for the next period. Under these conditions, management is compelled to manipulate in order to achieve the profit target that has been set, so that there are indications of fraud in the preparation of financial statements (Agusputri, 2019). Financial Target as measured by Return On Assets (ROA) has an influence on financial statement fraud. This is supported by research conducted by Agusputri (2019); Avortri & Agbanyo (2020) which reveal that financial targets have a positive effect on fraudulent financial reporting.

*H4: Financial targets have a positive effect on financial statement fraud.*

Nature of industry is the ideal state of a company in the industry. This situation is measured through accounts receivable in the financial statements. In the financial statements, there are certain accounts whose balance is determined by



the company based on an estimate, such as bad debts. Therefore, management can use this account as a way to manipulate it. Nature of industry as measured by the ratio of receivables has an influence on the detection of fraud in financial statements. This is supported by research conducted by [Inayanti & Sukirman \(2016\)](#); [Khoirunnisa et al. \(2020\)](#) revealing that the nature of industry affects fraudulent financial reporting.

*H5: The nature of industry has a positive effect on financial statement fraud.*

Opportunity or opportunity is an opportunity that allows fraud or fraud to occur ([Daljono, 2013](#)). According to the American Institute of Certified Public Accountants (2002) conditions in which the absence of effective controls, or the ability of management to override controls can provide opportunities for fraud to occur. This is in line with the opinion of [Jensen & Meckling \(1976\)](#) which stated that the agency relationship arises because of a contract between the principal and the agent by delegating some decision-making authority to the agent. Fraud can occur because there are certain loopholes that are deliberately exploited by the agent (company manager) in which case the agent knows exactly the opportunity and knows how to cover it so that the fraudulent actions are not known by the principal (company owner). Ineffective monitoring of independent commissioners provides an opportunity for fraudulent financial reporting. Thus, independent commissioners are considered less effective and maximal in supervising management, thus opening up opportunities for management to commit fraud in preparing financial reports ([Septriani, 2018](#)). Ineffective monitoring as measured by the ratio of independent commissioners has an influence on financial statement fraud.

*H6: Ineffective Monitoring has a positive effect on financial statement fraud.*

Quality of external auditor or auditor quality is the auditor's probability of detecting and reporting the results of the activities being audited ([DeAngelo, 1981](#); [Siddiq et al., 2017](#)). The quality of external auditors can affect the detection of fraudulent financial statements, and therefore external auditors who have adequate skills and expertise in auditing financial statements are needed. The quality of external auditors is determined by differences in the selection of audit services from public accounting firms appointed by the company, namely KAP which is part of BIG 4. Quality of external auditor as measured by dummy variable has an influence on financial statement fraud. This is supported by research conducted by [Apriliana & Agustina \(2017\)](#) which reveals that the quality of external auditors has an effect on fraudulent financial reporting.

*H7: Quality of external auditor has a positive effect on financial statement fraud.*

In SAS No. 99 AICPA, 2002 states that the effect of a change in auditor in the company can be an indication of fraud. The change in auditor or auditor change used by the company can be considered as a form to eliminate the fraud trail found by the previous auditor. This tendency encourages companies to replace their independent auditors to cover up fraud in the company ([Novitasari & Ulum, 2018](#)). Rationalization proxied by change in auditor as measured by a dummy variable has a significant effect on financial statement fraud. This is supported by

research conducted by [Ulfah et al. \(2017\)](#); [Novitasari & Chariri \(2019\)](#) showing that change in auditors has an effect on financial statement fraud.

*H8: Change in auditor has a positive effect on financial statement fraud.*

Competence is the ability possessed by individuals within the company so that it has the potential to create opportunities to commit fraud or fraud ([Siddiq et al., 2017](#)). In this study, the competence factor is proxied by changes of directors or changes in directors. Changes in the board of directors can be interpreted as the transfer or change of authority from the old board of directors to the new board of directors. The change of directors can be said as an effort by the company to get rid of directors who are considered aware of fraud in the company and changes in directors are considered to require adaptation time so that initial performance is not optimal ([Ulfah et al., 2017](#)). The results of research conducted by [Septriani & Handayani \(2018\)](#) show that in manufacturing companies, the change of directors has an effect on detecting fraudulent financial statements. This research is supported by [Siddiq et al. \(2017\)](#), which states that rationalization proxied by change of directors has an effect on financial statement fraud.

*H9: Change of Directors has a positive effect on financial statement fraud.*

Arrogance is a person's arrogant and haughty attitude and believes that the fraudulent act that has been committed will not be known and the legal rules made will not ensnare him ([Ulfah et al., 2017](#)). In this study, the arrogance factor is proxied by the frequency of appearance of CEO's photo or frequent number of CEO's picture is defined as the frequency of the CEO's photo appearing in the financial statements repeatedly, if in the annual report the CEO's photo has a large frequency of appearance it is considered that the CEO has a great desire. to be known by the wider community ([Aprillia, 2017](#)). This can describe the level of superiority or arrogance that the CEO has. The high level of arrogance can lead to fraud or fraud because the CEO feels that the internal controls in the company cannot limit it because of the status or position and there is a possibility that the CEO will take any means to maintain his position ([Kurnia et al., 2017](#)). The results of research conducted by [Bawekes et al. \(2018\)](#) state that arrogance proxied by the frequent number of CEO's picture has a significant effect on fraudulent financial reporting. This research is supported ([Novitasari & Chariri, 2019](#)).

*H10: Frequent number of CEO's picture has a positive effect on financial statement fraud.*

## **Method**

This research was conducted at the company listed on the Indonesia Stock Exchange (IDX) and exposed to OJK cases and sanctions for the 2015-2019 period. The population in this study are companies listed on the Indonesia Stock Exchange in 2015-2019. Sampling in this study used a sampling technique based on purposive sampling technique which is a sampling technique based on certain considerations. Certain considerations used include:



- The sample of fraud companies is a company listed on the Indonesia Stock Exchange (IDX) and exposed to OJK cases and sanctions in 2015-2019.
- Samples of fraud companies are companies that violate Bapepam regulations number IX.E.2 and VIII.G.7.
- The sample of non-fraud companies is companies that have no indication of fraud and the amount of assets and sales are comparable or almost the same as fraud companies in 2015-2019 in the same industrial sector.
- The company publishes audited annual financial reports for the period 2015-2019.
- There is access to download audited company financial reports.

The data collection in this study used the documentation method in the form of observation, recording, and review of secondary data in the form of the company's annual financial statements from the IDX official website, namely [www.idx.co.id](http://www.idx.co.id). This research uses SPSS computer program. Then, the analytical method in this study uses logistic regression analysis techniques and discriminant analysis. Thus, to see that the data is not normally distributed, the Kolmogorov-Smirnov statistical test is needed. The Wilcoxon signed-rank test is an alternative to the paired-sample t-test. This test is used to test the size of the fraud and non-fraud companies (sales and assets) whether they have similarities or not. Variables that pass the test are those that have significance ( $p > 0.05$ ) (Dorris et al., 2020; Beneish, 1999; Hanifa & Laksito, 2015).

## Results and Discussion

### Wilcoxon signed-rank test analysis

The first analysis before testing the independent variables is to test the company sample. Previously, to be able to proceed to the next analysis process, the company sample data must be tested differently to see the similarities between company sizes fraud and non-fraud. Thus, this study uses the Wilcoxon signed-rank test to see the similarity of the firm size data. The full Wilcoxon sign rank test results are presented in the table below.

Table 1  
Wilcoxon sign rank test Asset and Sales

	Non-Fraud Assets - Fraud Assets	Sales Non-Fraud - Sales Fraud
Z	-1,256	-1,444
asymp. Sig. (2-tailed)	0.209	0.149

Secondary Data, 2021

Table 1 shows that the Wilcoxon test results for Assets obtained a Z value of -1.256 with a significance of 0.209. While the Sales variable obtained a Z value of -1.444 with a significance of 0.149. From these results, it can be concluded that there is no significant difference between assets and sales in fraud and non-fraud companies because they have a significance value of 0.209 and 0.149, which is greater than 0.05. So that the assumption of having the same size or not being

different can be continued for logistic regression analysis and discriminant analysis.

### Logistics regression analysis test

In the process of logistic regression analysis using categorical data (dummy) on the dependent variable in this case non-fraud companies = 0 and fraud = 1. To identify the variables of the company's financial statements that are categorized as non-fraud and fraud, the full details are presented in the table below.

Table 2  
Data identification

Original Value	Internal Value
Non Fraud	0
Fraud	1

Secondary Data, 2021

Meanwhile, to find out that the processed data is complete and there is no missing data, the complete data processing results are presented in the table below.

Table 3  
Processed data

unweight Cases		N	Percent
Selected Cases	Included in Analysis	62	100.0
	Missing Cases	0	0.0
	Total	62	100.0
Unselected Cases		0	0.0
Total		62	100.0

Secondary Data, 2021

Based on Table 3, it is known that of the 62 samples entered, all of them can be processed and there is no missing data. Of the 62 total samples, there are 31 samples of fraudulent companies and 31 samples of non-fraud companies.

### Feasibility test of regression model

The feasibility of a logistic regression model can be assessed using the Hosmer and Lemeshow test. The complete test results are presented in Table 4.

Table 4  
Hosmer and Lemeshow test

Step	Chi-square	df	Sig.
1	5,227	8	0.733

Secondary Data, 2021

Table 4 shows that the Hosmer and Lemeshow test results obtained a chi-square value of 5.227 with a df of 8 and a significance of 0.733. Because a significance

value of  $0.733 > 0.05$  was obtained at a significance level of 5%, the null hypothesis was accepted, which means that the model is accepted and feasible to use.

### Feasibility test of overall regression model

To test the overall logistic regression model can use the log likelihood value. The overall test results at the initial stage without including the independent variable (block number = 0) are fully presented in Table 5.

Table 5  
Test results assessing the overall model

Iteration		-2 Logs likelihood	Coefficients Constant
Step 0	1	141,402	0.000

Secondary Data, 2021

In Table 5, the results of the -2 log likelihood test on block number 0: beginning block show a value of 141.402 with a significance value of 0.000. Because the significance value is  $0.000 < 0.05$ , the null hypothesis is rejected, which means that the model with constants does not fit the data. Then for the value of -2 log likelihood block number: 1, the complete number is presented in Table 6.

Table 6  
Test results assess the overall model

Iteration	-2 Logs		Coefficients									
	likelihood	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	
Step 1	1	91,743	0.528	3,689	1.089	-3.362	-0.159	-4,654	0.584	0.086	0.259	-0.287
	2	83,049	0.862	5,703	0.807	-6,219	-0.331	-7,429	0.840	0.184	0.464	-0.468
	3	81,641	0.950	6,800	0.459	-8,225	-0.476	-8,934	1.029	0.282	0.637	-0.579
	4	81,590	0.968	7,061	0.371	-8,657	-0.509	-9,302	1.085	0.308	0.684	-0.607
	5	81,590	0.969	7,073	0.367	-8,675	-0.510	-9,319	1.088	0.309	0.687	-0.608
	6	81,590	0.969	7,073	0.367	-8,675	-0.510	-9,319	1.088	0.309	0.687	-0.608

Secondary Data, 2021

Table 6 shows that the value of -2 log likelihood at block number = 1 by including independent variables, namely financial stability ( $X_1$ ), external pressure ( $X_2$ ), personal financial need ( $X_3$ ), financial target ( $X_4$ ), nature of industry ( $X_5$ ), ineffective monitoring ( $X_6$ ), quality of external auditor ( $X_7$ ), change in auditor ( $X_8$ ), change of directors ( $X_9$ ) and frequent number of CEO's picture ( $X_{10}$ ) obtained a value of -2 log likelihood of 81,590. The value of -2 log likelihood has decreased by 59.81. With the decrease in the value of -2 log likelihood, it can be concluded that the model fits the data after inserting the independent variables into the model.

### Coefficient of determination test ( $R^2$ )

In logistic regression there is a coefficient of determination, this value is the same as in multiple regression. There are two measures of the coefficient of determination, namely the value of Cox and Snell  $R^2$  and Nagelkerker  $R^2$ . The complete determination coefficient test results are presented in Table 7.

Table 7  
Coefficient of determination test ( $R^2$ )

Step	-2 Logs likelihood	Cox & Snell R Square	Nagelkerke R Square
1	81,590	0.444	0.592

Secondary Data, 2021

Based on Table 7, the R-square value of Cox and Snell is 0.444 and Nagekerke is 0.592. This means that the variability in the fraud variable can be explained by independent variables financial stability ( $X_1$ ), external pressure ( $X_2$ ), personal financial need ( $X_3$ ), financial target ( $X_4$ ), nature of industry ( $X_5$ ), ineffective monitoring ( $X_6$ ), quality of external auditor ( $X_7$ ), change in auditor ( $X_8$ ), change of directors ( $X_9$ ) and frequent number of CEO's picture ( $X_{10}$ ) of 59.2% ( $0.592 \times 100\%$ ) while the rest is explained by other variables that are not incorporated into the model.

### Regression coefficient significance test

To test the significance of the regression coefficient in logistic regression, it can be seen in the significance value obtained, if the significance value is  $> 0.05$  then the regression coefficient of the independent variable has no significant effect on the dependent variable. The complete test results are presented in Table 8.

Table 8  
Regression coefficient significance test results

		B	SE	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
								Lower	Upper
Step 1a	X1	0.969	1,892	0.263	1	0.608	2,636	0.065	107,420
	X2	7,073	2,265	9,754	1	0.002	1179,255	13.931	99821,897
	X3	0.367	2,662	0.019	1	0.890	1,443	0.008	266,197
	X4	8,675	3,401	6.505	1	0.011	0.000	0.000	0.134
	X5	-0.510	0.851	0.359	1	0.549	0.600	0.113	3,186
	X6	-9,319	2,840	10,765	1	0.001	0.000	0.000	0.023
	X7	1.088	0.669	2,646	1	0.104	2,968	0.800	11,011
	X8	0.309	0.670	0.213	1	0.644	1.362	0.367	5.064
	X9	0.687	0.816	0.709	1	0.400	1,988	0.402	9,832
	X10	-0.608	0.172	12,523	1	0.000	0.544	0.389	0.762
Constant		5,765	2,094	7,580	1	0.006	318.843		

Source: Processed data (2021)

### **The effect of financial stability on financial statement fraud**

The results of the significance test conducted by regression analysis on financial stability as proxied by ACHANGE or the ratio of changes in assets show the ACHANGE value in Table 8 is 0.608 or ( $p > 0.05$ ) in probability = 0.05. Thus, the results of the above test can be concluded that financial stability does not lead to financial statement fraud or in other words rejects hypothesis 1 or  $H_1$ . The ratio of change in assets (ACHANGE) is an analysis that is commonly used to see the financial stability of the company, whether the company can increase its assets every year, and in this case reflects the company's good and stable performance. The value of the ratio in this study cannot be a reference for a company to commit fraud or not. Where it can be concluded that the size of the value of financial stability, it will not affect the potential for financial statement fraud. This is because managers will not automatically manipulate financial statements to improve the company's prospects when financial conditions are unstable or experience a decline because this will actually worsen financial conditions in the future. It could be that when a company has low financial stability, it turns out that similar companies in the same industry also have low stability. So this is not a concern for management to lose their investors because this condition is also experienced by their competitors (Ulfah et al., 2017). In addition, because there are other factors that can affect the company's financial stability other than factors originating from within the company.

Factors originating from outside the company such as the business environment can also affect financial stability. Because the business environment includes factors outside the company that can pose opportunities or threats for the company (Wispondono, 2010). So this is not a concern for management to lose their investors because this condition is also experienced by their competitors (Ulfah et al., 2017). In addition, because there are other factors that can affect the company's financial stability other than factors originating from within the company. Factors originating from outside the company such as the business environment can also affect financial stability. Because the business environment includes factors outside the company that can pose opportunities or threats for the company (Wispondono, 2010). So this is not a concern for management to lose their investors because this condition is also experienced by their competitors (Ulfah et al., 2017). In addition, because there are other factors that can affect the company's financial stability other than factors originating from within the company. Factors originating from outside the company such as the business environment can also affect financial stability. Because the business environment includes factors outside the company that can pose opportunities or threats for the company (Wispondono, 2010).

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Agusputri (2019); Khoirunnisa et al (2020) which show that financial stability does not have a significant effect on financial statement fraud.

### **The effect of external pressure on financial statement fraud**

The results of the significance test carried out by logistic regression analysis on external pressure as proxied by LEV or the ratio of total debt to total assets showed the LEV value in Table 8 was 0.002 or ( $p < 0.05$ ) in probability = 0.05. Thus, the results of the above test can be concluded that external pressure has a positive effect on financial statement fraud or in other words accepts hypothesis 2 or  $H_2$ . External pressures the pressure faced by management to meet the expectations of third parties. The value of leverage as a proxy in assessing external pressure in this study shows that external pressure has a positive effect on financial statement fraud, which means that the higher the leverage value of a company, the greater the indication of financial statement fraud. According to Kasmir (2013), a company that has a high leverage ratio means that the company has large debt and has an impact on the risk of greater losses. The company's large debt is a source of pressure for management, because the risk of failing to repay the debt will also be higher. So companies need high profits to be able to convince creditors that they are able to pay their debts. These results support research conducted by Novitasari & Chariri (2019); Khoirunnisa et al. (2020) which show that external pressure has a significant positive effect on financial statement fraud.

### **The effect of personal financial need on financial statement fraud**

The results of the significance test carried out by regression analysis of personal financial need as proxied by OSHIP or the ratio of the total shares owned by insiders to the total shares outstanding show the OSHIP value in Table 8 of 0.890 or ( $p > 0.05$ ) in probability = 0,05. Thus, the results of the above test can be concluded that personal financial need has no effect on financial statement fraud or in other words rejects hypothesis 3 or  $H_3$ . Personal financial need is a condition when the company's finances are also influenced by the financial condition of the company's executives as measured by the share ownership of insiders or company executives. The OSHIP value in this study shows that personal financial need has no significant effect on financial statement fraud of the company. This is because even though the shares owned by these executives are not a separate pressure for the company. For companies, there is no difference in shares owned by executives, institutions or other parties because it is the company's obligation to distribute dividends to shareholders. The dividends distributed to shareholders do not differentiate between shares owned by institutions, individuals and managers. These results support research conducted by Ulfah et al. (2017); Bawekes et al. (2018); Yulianti et al. (2019) which shows that personal financial need does not have a significant effect on financial statement fraud.

### **The effect of financial targets on financial statement fraud**

The results of the significance test carried out by logistic regression analysis on the financial target as proxied by ROA showed the ROA value in Table 8 of 0.011 or ( $p < 0.05$ ) in probability = 0.05. Thus, the results of the above test can be



concluded that the financial target has a significant positive effect on financial statement fraud or in other words accepts hypothesis 4 or H<sub>4</sub>. Return on Assets (ROA) is a measure of the company's operating performance that is used to identify how efficient the use of assets owned (Skousen et al., 2009). In this study, the ROA value indicates that the financial target has a positive effect on financial statement fraud. Based on agency theory, fraudulent actions are influenced by the relationship between the agent and the principle, namely management is trying its best to manage the company on the trust of the shareholders so that management is required to provide good performance results. This condition makes agents face pressure and take various ways to get bonuses for the performance they have done.

Financial targets provide motivation as well as pressure to improve management performance to produce a positive impact on the decisions of investors and creditors, as well as other stakeholders. The concept of profitability or ROA in financial theory is often used as an indicator of the company's fundamental performance representing management performance. With a higher target, management is compelled to manipulate in order to achieve the profit target that has been set. These results support the research conducted by [Septriani & Handayani \(2018\)](#), which shows that financial targets have a significant influence on financial statement fraud. The increase in the company's financial target is a pressure for management. Under these conditions, management is compelled to manipulate in order to achieve the profit target that has been set, so that there are indications of fraud in the preparation of financial statements. This study also supports the research results of [Khoirunnisa et al. \(2020\)](#), which show that financial targets have a significant influence on financial statement fraud.

### **The effect of nature of industry on financial statement fraud**

The results of the significance test carried out by regression analysis on the nature of industry as proxied by RECEIVABLE or the ratio of changes in receivables show the RECEIVABLE value in Table 8 is 0.549 or ( $p > 0.05$ ) in probability = 0.05. Thus it can be concluded that the nature of the industry has no significant effect on financial statement fraud or in other words rejects hypothesis 5 or H<sub>5</sub>. Nature of industry is the ideal state of a firm in the industry. In financial reporting there are certain accounts whose balances are determined by the company based on an estimate, such as bad debts and obsolete inventories. Bad debts require subjective assessment in estimating uncollectible accounts. Managers will focus on these accounts if they want to commit fraud in financial statements ([Summers & Sweeney, 1998](#)). This study shows that the nature of the industry as proxied by the ratio of receivables does not affect the financial statement fraud. This result occurred because the size of the ratio of changes in trade receivables during the year of observation did not trigger management to commit fraud. On the other hand, these results support the research conducted by [Septriani & Handayani \(2018\)](#) which shows that the nature of the industry has no significant effect on financial statement fraud. A good company will reduce the amount of receivables and increase cash receipts. This study also supports research conducted by [Novitasari & Chariri \(2019\)](#) which states that the nature of the industry has no significant effect on financial statement fraud.

### **The effect of ineffective monitoring on financial statement fraud**

The results of the significance test carried out by logistic regression analysis on ineffective monitoring which is proxied by BDOUT or the ratio of independent commissioners shows the BDOUT value in Table 8 is 0.001 or ( $p < 0.05$ ) in probability = 0.05. Thus, the results of the above test can be concluded that ineffective monitoring has a negative effect on financial statement fraud or in other words rejects hypothesis 6 or  $H_6$ . Agency theory arises because of the contract between the principal and the agent by delegating some decision-making authority to the agent. Fraud can occur because there are certain loopholes that are deliberately exploited by the agent (company manager) in which case the agent knows exactly the opportunity and knows how to cover it so that the fraudulent actions are not known by the principal (company owner).

The existence of an independent board of commissioners in a company is a significant factor in increasing the company's operational supervision (Yesiariani & Rahayu, 2016). The Financial Services Authority (OJK) based on regulation Number 33/POJK.04/2014 has regulated that in order to improve the implementation of good corporate governance principles for issuers or public companies, it is necessary to have regulations relating to the duties and responsibilities of the Board of Commissioners and the Board of Directors. The regulation explains that the number of independent commissioners must be at least 30% (thirty percent) of the total members of the Board of Commissioners. However, based on the results of the logistic regression significance test in Table 5.9, it can be seen that the direction of the presence of this independent commissioner is = -9.319 which means it has a negative relationship.

Significantly negative results for BDOUT indicate that the presence of an independent commissioner tends to reduce the potential for fraud that will arise, where when there is an independent supervisor in the company, it will increase the effectiveness of monitoring management performance because management feels closely monitored so that it does not violate existing rules. This is in line with the results of Agusputri (2019) which states that ineffective supervision makes management feel that they are not being closely monitored so that they are freer to find ways to maximize their welfare and personal benefits.

### **The effect of external auditor quality on financial statement fraud**

The results of the significance test carried out by regression analysis on the quality of external auditors as proxied by the reputation of the auditors as measured by the dummy variable. If the company uses KAP BIG 4 audit services, it is coded 1, and if the company does not use KAP BIG 4 audit services, it is coded 0. The significance value in Table 8 is 0.104 or ( $p > 0.05$ ) in probability = 0, 05. Thus, the test results on the quality of external auditors have no effect on financial statement fraud. It can be concluded that or in other words rejects hypothesis 7 or  $H_7$ .

Quality of external auditor or auditor quality is the probability of an auditor detecting and reporting the results of the audited activities (DeAngelo, 1981; Siddiq et al., 2017). The hypothesis in this study states that the quality of

external auditors can affect the detection of fraud in financial statements, and therefore external auditors who have adequate skills and abilities in auditing financial statements are needed. The quality of external auditors is determined by differences in the selection of audit services from public accounting firms appointed by the company, namely KAP which is incorporated in BIG 4. The results show that auditor quality has no effect on financial statement fraud. KAP which is incorporated in BIG 4 or not, does not become a benchmark that management will commit fraud or not because every KAP has the same auditing standards and clear sanctions if they violate the audit standards that have been set. This is in line with the research of [Ulfah et al. \(2017\)](#) which states that the main thing that underlies that the KAP measure cannot be used to detect fraud in financial statements is because the auditor in carrying out the audit must be based on auditing standards. Another thing that underlies the existence of sanctions for violations committed by the auditor. All auditors, whether classified as Big 4 or non-Big 4 KAPs, have the same position, which is that they must comply with auditing standards in carrying out their duties.

This is in line with the research of [Ulfah et al. \(2017\)](#) which states that the main thing that underlies that the KAP measure cannot be used to detect fraud in financial statements is because the auditor in carrying out the audit must be based on auditing standards. Another thing that underlies the existence of sanctions for violations committed by the auditor. All auditors, whether classified as Big 4 or non-Big 4 KAPs, have the same position, which is that they must comply with auditing standards in carrying out their duties. This is in line with the research of [Ulfah et al. \(2017\)](#) which states that the main thing that underlies that the KAP measure cannot be used to detect fraud in financial statements is because the auditor in carrying out the audit must be based on auditing standards. Another thing that underlies the existence of sanctions for violations committed by the auditor. All auditors, whether classified as Big 4 or non-Big 4 KAPs, have the same position, which is that they must comply with auditing standards in carrying out their duties. Another thing that underlies the existence of sanctions for violations committed by the auditor. All auditors, whether classified as Big 4 or non-Big 4 KAPs, have the same position, which is that they must comply with auditing standards in carrying out their duties. Another thing that underlies the existence of sanctions for violations committed by the auditor. All auditors, whether classified as Big 4 or non-Big 4 KAPs, have the same position, which is that they must comply with auditing standards in carrying out their duties.

### **The effect of change in auditor on financial statement fraud**

The results of the significance test carried out by regression analysis on change in auditors as proxied by changes in auditors or KAP as measured by dummy variables. The significance value is 0.644 or ( $p > 0.05$ ) in the probability = 0.05. Thus, the test results above can be concluded that the change in auditor has no significant effect on financial statement fraud or in other words rejects hypothesis 8 or  $H_8$ . Change in auditor or the change of auditors used by the company can be considered as a form to eliminate the fraud trail found by the previous auditor. This tendency encourages companies to replace their independent auditors to cover up fraud in the company. This study states the results that change in

auditors have no significant effect on financial statement fraud, meaning that auditor turnover by the company cannot be used to detect fraud committed by management in preparing financial statements. The change of auditors is not because this company reduces the possibility of detecting financial statement fraud by the old auditor, but rather because the company wants to comply with the Regulation of the Minister of Finance of the Republic of Indonesia Number 154/PMK.01/2017.

### **The effect of change of director on financial statement fraud**

The results of the significance test carried out by regression analysis of the change of directors were proxied by the change of directors as measured by the dummy variable. The significance value in Table 8 is 0.400 or ( $p > 0.05$ ) in the probability = 0.05. Thus, the test results above can be concluded that the change of directors has no significant effect on financial statement fraud or in other words rejects hypothesis 9 or  $H_9$ . Competencies the ability possessed by individuals in a company so that it has the potential to create opportunities to commit fraud or fraud (Siddiq et al., 2017). In this study, the competence factor is proxied by changes of directors or changes in directors. The hypothesis of this study states that the change of directors can be regarded as the company's effort to get rid of the directors who are considered aware of fraud in the company and the change of directors is considered to require adaptation time so that the initial performance is not optimal.

The results of the study reject the hypothesis, which means that change of directors has no effect on financial statement fraud. This is because the change of directors is carried out for the recruitment of directors who are more competent than the previous directors. These results support the research conducted by [Septriani & Handayani \(2018\)](#), which shows that change of directors has a significant effect on financial statement fraud. The replacement of more competent directors is considered effective to enable an increase in company performance to be better than before ([Septriani & Handayani, 2018](#)). In addition, there is a possibility that a change of directors will be made if the previous board of directors retires or dies.

### **The effect of frequent number of CEO picture on financial statement fraud**

The results of the significance test conducted by logistic regression analysis on the frequent number of CEO's picture which is proxied by the number of CEO photos in the company's annual report. The significance value in Table 8 is 0.000 or ( $p < 0.05$ ) in the probability = 0.05. Thus, the results of the above test can be concluded that the frequent number of CEO's picture has a significant negative effect on financial statement fraud or in other words rejects hypothesis 10 or  $H_{10}$ .

The results show that the frequent number of CEO's picture has an effect on financial statement fraud, which means that the high or low level of arrogance can lead to fraud or fraud. The high level of arrogance can lead to fraud or fraud because the CEO feels that the internal controls in the company cannot limit it because of the status or position and there is a possibility that the CEO will take any means to maintain his position. Significantly negative results indicate that

there is an inverse relationship between the frequent number of CEO's picture and financial statement fraud. The more frequently the CEO's picture appears, it can reduce the occurrence of fraud in the company's financial statements. This is because many of the CEO photos displayed are mostly photos of the results of positive activities or performances carried out by the company. This shows that the presence of many positive activities or performance indicates a company that has achieved good performance so that it does not allow financial statement fraud.

### **Discriminant analysis test (cross-validation method)**

To perform the accuracy of the model in the above, discriminant analysis is used with the method cross-validation. This method is very effective in providing an unbiased estimate of the model misclassification. Prior to the discriminant analysis, due to the previous logistic regression model testing, there were still five (5) independent variables that had no significant influence on financial statement fraud, such as financial stability, personal financial need, nature of industry, quality of external auditor, change in auditor, change of directors, a logistic regression test is carried out which can be seen in Table 9.

Table 9  
Logistics regression model

		B	SE	Wald	df	Sig.
Step 1a	X <sub>2</sub>	6.519	2.044	10,177	1	0.001
	X <sub>4</sub>	6,760	2,824	5,731	1	0.017
	X <sub>6</sub>	-8,718	2,634	10,953	1	0.001
	X <sub>10</sub>	-0.550	0.154	12,709	1	0.000
	Constant	5,741	1,835	9,788	1	0.002

Secondary Data, 2021

The test results in Table 9 show that external pressure (X<sub>2</sub>), financial target (X<sub>4</sub>), ineffective monitoring (X<sub>6</sub>) and frequent number of CEO's picture (X<sub>10</sub>) have a significance value of <0.05, so the four variables have a significant effect on fraud. From the results of the analysis, the following equation can be made:

$$\text{FRAUD} = + 2 \cdot \text{external pressure} + 4 \cdot \text{financial target} - 6 \cdot \text{Ineffective monitoring} - \beta_{10} \cdot \text{CEO's picture} +$$

$$\text{FRAUD} = 5,741 + 6,519 \cdot \text{external pressure} + 6,760 \cdot \text{financial target} - 8,718 \cdot \text{Ineffective monitoring} - 0,550 \cdot \text{CEO's picture} + 1,835$$

For the results of the discriminant analysis test with the cross sectional method, the full details are presented in Table 10.

Table 10  
Discriminant analysis

Financial statements		Predicted Group Membership		Total
Original	Count	Non Fraud	Fraud	
		Non Fraud	26	5
		Fraud	7	24
	%	Non Fraud	83.8	16.2
		Fraud	22.5	77.5
				100.0

Secondary Data, 2021

Based on Table 10 the results of the discriminant analysis test using cross validation showed that of the 31 non-fraud samples, 26 (83.8%) were predicted to be non-fraud and 5 (16.2%) were predicted to be fraudulent. Meanwhile, from a sample of 31 fraud companies, 24 (77.5%) were predicted to be fraudulent and 7 (22.5%). The level of model accuracy can be calculated by the following formula:

$$\text{Percentage Classification} = \frac{26 + 24}{62} \times 100\% = 80,6\%$$

The calculation results show the percentage level of accuracy with discriminant analysis of 80.6%. Each prediction accuracy for non-fraud is 83.8% and fraud is 77.5%.

## Conclusion

- Financial stability has no effect on financial statement fraud. This shows that the small value of financial stability will not affect the potential for financial statement fraud. This is because managers will not necessarily manipulate financial statements to improve the company's prospects when financial conditions are unstable or experience a decline because this will actually worsen financial conditions in the future.
- External pressure positive effect on financial statement fraud. This shows that the higher the leverage value of a company, the greater the indication of financial statement fraud. The company's large debt is a source of pressure for management, because the risk of failing to repay the debt will also be higher. So companies need high profits to be able to convince creditors that they are able to pay their debts. This can be an impetus for management to commit fraud.
- Personal financial need has no effect on financial statement fraud. This is because even though the shares owned by these executives are not a separate pressure for the company. For companies, there is no difference in shares owned by executives, institutions or other parties because it is the company's obligation to distribute dividends to shareholders.
- Financial targets significant positive effect on financial statement fraud. Financial targets provide motivation as well as pressure to improve management performance to produce a positive impact on the decisions of investors and creditors, as well as other stakeholders. With a higher target, management is compelled to manipulate in order to achieve the profit target that has been set.



- Nature of industry does not have a significant effect on financial statement fraud. This result occurred because the size of the ratio of changes in trade receivables during the year of observation did not trigger management to commit fraud. In addition, the difference in the nature of the industry in each sample company makes the value of accounts receivable unable to be used to detect fraudulent actions by management.
- Ineffective monitoring significant negative effect on financial statement fraud. Significantly negative results for BDOUT indicate that the presence of an independent commissioner tends to reduce the potential for fraud that will arise, where when there is an independent supervisor in the company, it will increase the effectiveness of monitoring management performance because management feels closely monitored so that it does not violate existing rules.
- External auditor quality has no effect on financial statement fraud. KAPs that are members of BIG 4 or not, do not become a benchmark that management will commit fraud or not because every KAP has the same auditing standards and clear sanctions if they violate the audit standards that have been set.
- Change in auditor does not have a significant effect on financial statement fraud. auditor turnover by the company cannot be used to detect fraud committed by management in preparing financial statements. The change of auditors is not because this company reduces the possibility of detecting financial statement fraud by the old auditor, but rather because the company wants to comply with the Regulation of the Minister of Finance of the Republic of Indonesia Number 17/PMK.01/2008 article 3 paragraph 1.
- Change of directors does not have a significant effect on financial statement fraud. This is because the change of directors is carried out for the recruitment of directors who are more competent than the previous directors. Not as an attempt by the company to get rid of directors who are considered aware of fraud in the company and changes in directors are considered to require adaptation time so that initial performance is not optimal.
- Frequent number of CEO's picture have a significant negative effect indicates that there is an inverse relationship between the frequent number of CEO's picture and financial statement fraud. The more frequently the CEO's picture appears, it can reduce the occurrence of fraud in the company's financial statements. This is because many of the CEO photos displayed are mostly photos of the results of positive activities or performances carried out by the company.

From the results of this study, it is hoped that further research related to the detection of financial statement fraud can be even better by incorporating the following is further research is recommended to use other proxies for financial ratios and non-financial ratios for the fraud pentagon model, such as total accrual to total assets (rationalization), in order to get better results and can form a more accurate detection model and is recommended to use data samples from other sectors, such as the government sector including local governments and state-owned companies as one of the sectors that most frequently occurs fraud and receives great attention from the Indonesian people.

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