Determinants of Financial Reporting Fraud in the Perspective of Fraud Hexagon

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ABSTRACT

The purpose of this study is to detect fraud in financial statements using Fraud Hexagon analysis which includes stimulus proxied by financial stability and external pressure, opportunity proxied by effective monitoring and quality of external, rationalization proxied by change in auditors, capability proxied by change in directors, arrogance proxied by the size of CEO photos, and collusion proxied by cooperation between companies and govermemnt. This study uses the Beneish M-Score measurement to detect fraudulent financial statements. The sampling method is purposive sampling consisting of 51 companies that meet the criteria of 80 infrastructure, utility and transportation companies listed on the IDX for 2017-2022. The hypothesis in this study was tested using logistic regression analysis. The results of the study show that the variables of supervisory effectiveness, changes in directors, and cooperation between companies and the government have an influence on fraudulent financial statements. Meanwhile, the variables of financial stability, external pressure, quality of external auditors, changes in auditors, and CEO photo size have no effect on fraudulent financial statements.

INTRODUCTION

In today's increasingly modern business world, competition is getting higher, to be able to survive and get better the company must have a strategy to grow. Having a large investor provide added value in the form of funds for the continuity of the company is one of the strategies that every company needs. The consequences of having investors cause competition between companies. Thus, providing space for company management to deliberately manipulate the company's financial statements so that the company looks good in the eyes of investors. Fraud often committed by company managers is called fraud, including the practice of manipulating financial statements or what is called financial statement fraud (T. P. Sari & Lestari, 2020).

The Association of Certified Fraud Examiners (ACFE) survey in 2022, examined financial statement fraud only occurred in 9% of all fraud cases, with an average loss of $593,000 (ACFE, 2022). ACFE Indonesia in a survey of fraud in Indonesia in 2019 confirmed that corruption is the fraud that costs the state the most with a loss value of IDR 373,650,000,000 (69.9%). The next order is misuse of assets amounting to Rp257,520,000,000 (20.9%), and fraudulent financial statements amounting to Rp242,260,000,000 (9.2%). Similar to the global ACFE results, financial statement fraud cases in Indonesia show the lowest percentage, but have a significant impact compared to other types of fraud (ACFE Indonesia, 2020).

Based on a quote from Bareksa.com, in September 2014 there were indications of errors in the presentation of Inovisi Infracom's (INVS) financial statements found by the IDX. The IDX decided to suspend Inovisi Infracom for the findings of eight misstatements with high materiality. Because there was no improvement from the company's management for two years, the IDX finally delisted the company in 2017 (Bareksa, 2015).

In 2019, several institutions such as the Ministry of Finance, OJK and IDX stated that Garuda Indonesia (GIAA) was guilty of fraudulent revenue recognition in its 2018 financial statements. Based on the Financial Accounting Standard Requirements (PSAK), Garuda Indonesia provided non-compliant 2018 financial statements. Referring to the case, Garuda Indonesia was found guilty and committed a violation based on OJK Regulation Number 29 / POJK.04 / 2016 (Pablo, 2019).

Based on the above cases, it can be concluded that audited financial statements that have even been published do not guarantee that the financial statements are free from fraud or misstatement. The role of financial statements is used for decision making, but often company management manipulates in order to present attractive financial statements. This is a big reason why investigating any financial statement fraud is well needed and very important in any financial reporting.

Detecting financial statement fraud does not always go well due to the many underlying drivers and ways to do it. Thus, there is a fraud theory that can explain individuals and groups in committing fraud. Fraud theory is a description of the form of fraud detection in a corporate environment (Rezianti et al., 2022). The fraud triangle by Cressey (1954) is the first theory that describes the factors that cause fraudsters to act fraudulently. Cressey (1954) shows three conditions that cause fraud, namely pressure, opportunity, and rationalization. Along with the development of the fraud triangle, Wolfe & Hermanson (2004) introduced the fraud diamond which proposes to add the "capability" dimension. That is, if a fraudster has the opportunity, but the person does not have the ability to commit fraud, it is likely that it will not happen.

In 2012, Jonathan Marks formulated the fraud pentagon, incorporating the element of arrogance into the elements of fraud (M. P. Sari et al., 2020). Arrogance is seen as a form of greed or power by people who believe that the internal control system is for the individual level. Georgous L. Vousinas developed the latest fraud theory in 2019 by introducing the fraud hexagon model (S.C.C.O.R.E) which consists of stimulus, capability, collusion, opportunity, rationalization, and ego.

The factors driving fraud using the fraud hexagon theory have been studied by Achmad et al. (2022) which shows that financial stability and external pressure have a positive effect on financial statement fraud, while supervisory ineffectiveness, auditor changes, changes in directors, the number of CEO photos and collusion have a negative effect on financial statement fraud. Research conducted by Sari et al. (2020) shows that the nature of the industry and changes in the board of directors have a positive effect on financial statement fraud, while external pressure, auditor changes, CEO duality and political connections have a negative effect on financial statement fraud. Research conducted by Jannah et al. (2021) shows that external pressure, auditor changes, changes in directors, and collusion have a positive effect on financial statement fraud, while financial stability, financial targets, supervisory ineffectiveness, and CEO duality have a negative effect on financial statement fraud. Meanwhile, research from Novarina & Triyanto (2022) shows that auditor opinion and the number of CEO photos have a positive effect on financial statement fraud, while external pressure, changes in the board of directors, the nature of the industry and collusion have a negative effect on financial statement fraud.

Researchers are encouraged to conduct research on the factors that influence financial statement fraud using fraud hexagon analysis due to differences in results from previous studies. In addition, there is limited research related to the fraud hexagon which is the latest fraud model. It is hoped that this research can contribute to accounting science related to the findings of fraud that continues to increase. This study is different from previous studies, first by adding the variable size of the CEO photo which represents the perspective of arrogance. The attitude of a CEO is indirectly reflected in the appearance of the CEO photo shown in the company's annual report (S. P. Sari & Nugroho, 2020). The company's annual report provides an opportunity for the CEO to report on the company's progress and prospects. Although CEO photos are a standard feature of annual reports, they are not universal or uniformly prominent (Ernawan & Daniel, 2020). Chatterjee & Hambrick (2007) assert that CEOs pay close attention to the content and design of annual reports, especially having strong assertiveness and control over their own image. An arrogant CEO will show his self-image in the annual report, making a strong statement that he is more important than anyone else in the company.

The second research difference is the sample of companies from the infrastructure, utilities and transportation sectors listed on the IDX. Researchers focus on infrastructure development which is a priority for President Joko Widodo. It is not a small amount of funds to build the infrastructure needed. The total funding needs of Rp4,700 trillion in 2015-2019 from the RPJMN, as much as 41.3% of the contribution from the state budget amounting to Rp1,941 trillion, as much as 22% contribution from BUMN amounting to Rp1,034 trillion, and the remaining 36.7% contribution from the private sector amounting to Rp1,725 trillion (Medan Bisnis, 2017). Currently, the government is implementing the 2020-2024 RPJMN with the theme of emphasizing investment and accelerating infrastructure development (bpkp.go.id). The number of infrastructure, utility and transportation projects attracts companies and investors from within and outside the country, thus encouraging fraudulent financial statements to make the company's performance look attractive. Furthermore, companies engaged in the same sector must have no different types of transactions. This could indicate that other companies in the sector have the same opportunities for fraud, for example the companies Inovisi Infracom and Garuda Indonesia.

This study aims to analyze whether financial stability and external pressure representing the perspective of stimulus, supervisory ineffectiveness and the quality of external auditors representing the perspective of opportunity, auditor changes representing the perspective of rationalization, changes in the board of directors representing the perspective of capability, CEO photo size representing the perspective of arrogance, and cooperation between the company and the government representing the perspective of collusion affect financial statement fraud. Given, the impetus for committing fraudulent financial statements occurs because of these factors.

METHODS

The object of this research is public companies listed on the Indonesia Stock Exchange (IDX), and the sample is infrastructure, utilities, and transportation companies for the period 2017-2022. The data in this study are secondary data obtained by researchers through the official IDX website (www.idx.com) and the company's official website. The sampling technique used in this study was purposive sampling. The sample selection process is shown in Table 1 below:

Table 1 Sample Selection Process

No	Sample Selection Criteria	Total Company
1	Infrastructure, Utilities, & Transportation companies listed on the IDX 2017-2022	80
2	Number of Infrastructure, Utilities, and Transportation companies that did not publish complete annual reports during 2017-2022	29
3	Number of companies delisted in the Infrastructure, Utilities, and Transportation sector during 2017-2021	0
Company sample data criteria		Total
Number of research samples		80
Number of outlier data		29
Number of research samples after deducting outlier data		51
Research period		6
Accumulated research sample		361

Source: Research Data, 2023

The dependent variable in this study is financial statement fraud (fraud). Financial statement fraud can be defined as fraudulent actions by management that cause losses to investors and creditors in the form of material misstatements of financial statements. Financial statement fraud in this study uses the Beneish M-Score Beneish (2016) model with the following formula:

$$M = -4,84 + 0,920 \times \text{DSRI} + 0,528 \times \text{GMI} + 0,404 \times \text{AQI} + 0,892 \times \text{SGI} + 0,115 \times \text{DEPI} - 0,172 \times \text{SGAI} - 0,327 \times \text{LVGI} + 4,679 \times \text{TATA}$$

If the Beneish M-Score is greater than -2.22, then the company is classified as fraudulent. Meanwhile, if the score is less than -2.22, the company is classified as not committing fraud.

The independent variables in this study are financial stability, external pressure, supervisory effectiveness, external auditor quality, auditor changes, board of directors changes, CEO photo size, cooperation between companies and the government. The measurements for each independent variable are listed in Table 2.

Table 2 Independent Variable

Independent Variable	Measurement	Source
Financial stability (ACHANGE)	$\dfrac{\text{Total Assets t} - \text{Total Assets t} - 1}{\text{Total Assets t} - 1}$	(Skousen et al., 2009)
External pressure (LEV)	$\dfrac{\text{Total Debt}}{\text{Total Assets}}$	(Skousen et al., 2009)
Effectiveness of supervision (ACMEET)	The supervisory effectiveness variable is measured by calculating the number of audit committee meetings during one budget period.	(Zgarni et al., 2016)
External auditor quality (REPUT)	Dummy variable, coded 1 if the company is audited by Big Four, otherwise coded 0 if not audited by Big Four.	(Zgarni et al., 2016)
Change of auditor (AUDCHANGE)	Dummy variable, coded 1 if the company changes the KAP, otherwise coded 0 if it does not change the KAP.	(Skousen et al., 2009)
Change of directors (DCHANGE)	Dummy variable, coded 1 if the company changes the director of the board of directors, and 0 if it does not change the director.	(M. P. Sari et al., 2022)
CEO photo size (PICSIZE)	CEO photo size is measured by calculating the area of the CEO image in the company's annual report in square inches.	(Kim, 2018)
Cooperation between companies and government (COLL)	Dummy variable, coded 1 if the company cooperates with the government, otherwise coded 0 if the company does not cooperate with the government.	(Handoko, 2021)

This study uses logistic regression analysis test, this technique is used because financial statement fraud (dependent variable) is a dummy variable. The feasibility of the regression model is determined based on Hosmer and Lemeshow's Goodness of Fit Test to assess the overall model fit based on the -2 Log Likelihood function of the model. Next, to assess the coefficient of determination,

Nagelkerke's R Square was used. This study uses a significance level of 0.05 and the regression model is as follows:

$$FRAUD = \alpha + \beta_1 ACHANGE + \beta_2 LEV + \beta_3 ACMEET + \beta_4 REPUT + \beta_5 AUDCHANGE + \beta_6 DCHANGE + \beta_7 PICSIZE + \beta_8 COLL + e$$

RESULTS

This study used 51 infrastructure, utilities and transportation sector companies listed on the IDX as samples over a period of 6 (six) periods. Thus, a total of 306 company annual reports were used as research objects. An overview or description of the data from each variable is shown in Table 3.

Table 3 Descriptive Data Analysis

Variabel	N	Min	Maks	Mean	Std. Deviasi
ACHANGE	306	- 1524.83	1.00	-4.959	87.171
LEV	306	.00	3192.53	11.840	182.937
ACMEET	306	0	57	7.40	8.594
REPUT	306	0	1	.40	.490
AUDCHANGE	306	0	1	.11	.319
DCHANGE	306	0	1	.39	.488
PICSIZE	306	.00	67.84	22.531	16.985
COLL	306	0	1	.47	.500
FRAUD	306	0	1	.26	.442

Source: Research Data, 2023

The independent variable financial stability (ACHANGE) shows a mean of -4.49586, external pressure (LEV) shows a mean of 11.840, supervisory effectiveness (ACMEET) shows a mean of 7.40, external auditor quality (REPUT) shows a mean of 0.40, auditor change (AUDCHANGE) shows a mean of 0.11, board of directors change (DCHANGE) shows a mean of 0.39, CEO photo size (PICSIZE) shows a mean of 22.531, and cooperation between companies and the government (COLL) shows a mean of 0.47.

Hosmer and Lemeshow's Goodness of Fit Test shows a Chi-Square value of 6.375 and a significance value of 0.605 (greater than 0.05), which means that the research model is feasible and fits the data. The test is supported by showing the -2LogLikelihood value at Block 1 of 306.489 compared to the -2Log Likelihood value at Block 0 of 353.688 which has decreased. This shows that the hypothesized model fits the data because of the decrease in -2Log Likelihood. The Overall percentage value of the model shows 77.5%. The Nagelkerke R-Square coefficient

of determination is 0.209, which means that the variability in each factor of the fraud hexagon model can explain 20.9% of financial statement fraud, while the remaining 79.1% is explained by other factors. These results are all listed in the table below.

Table 4 Assessing Overall Model Fit

		Iteration Historya,b,c,d								
		Coefficients								
Iteration	-2 Log likelihood	Constant	ACHANGE	LEV	ACMEET	REPUT	AUDCHANGE	DCHANGE	PICSIZE	COLL
Step 1	324.548	-1.218	.026	.012	-.031	-.545	.557	.747	.006	.473
	320.207	-1.429	.045	.021	-.049	-.734	.689	.983	.008	.645
	319.212	-1.453	.096	.045	-.053	-.766	.711	1.012	.008	.664
	308.508	-1.699	1.326	.632	-.044	-1.000	.816	.956	.005	.534
	308.239	-1.798	1.526	.727	-.043	-1.070	.814	.978	.006	.543
	308.231	-1.801	1.533	.730	-.043	-1.073	.814	.980	.006	.543
	308.210	-1.800	1.536	.729	-.043	-1.073	.814	.980	.006	.543
	306.506	-1.637	1.923	.494	-.045	-1.025	.799	.996	.004	.556
	306.489	-1.634	1.983	.479	-.045	-1.026	.792	.997	.004	.560
0	306.489	-1.634	1.984	.479	-.045	-1.026	.791	.997	.004	.560

a. Method: Enter

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 353.688

d. Estimation terminated at iteration number 10 because parameter estimates changed by less than .001.

Source: Research Data, 2023

Table 5 Goodness of Fit Test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	6.375	8	.605

Table 6 Nagelkerke R Square

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	306.489a	.143	.209

a. Estimation terminated at iteration number 10 because parameter estimates changed by less than ,001.

Source: Research Data, 2023

The results of data classification and grouping as many as 217 observation samples were grouped as having no signs of financial statement fraud in the following period. A total of 18 observation samples were grouped indicating that they consistently committed fraudulent financial statements in the following year, while 69 observation samples showed signs of changes in fraudulent financial statements in the following year. Based on the data classification grouping, almost

all infrastructure, utilities, and transportation companies choose to present realistic financial performance in order to maintain the trust of financial statement users. The classification results are shown in Tables 7 and 8 as follows.

Table 7 Classification Matrix

Classification Tablea				
Observed		Predicted		
		FRAUD		Percentage Correct
		Non-Fraud	Fraud	
FRAUD	Non-Fraud	217	8	96.4%
	Fraud	61	18	22.8%
		Overall Percentage		77,3%

Source: Research Data, 2023

Table 8 Classification of Research Data and Overall Percentage Results

Observed		Predicted		
		FRAUD		Percentage Correct
		Non-Fraud	Fraud	
FRAUD	Non-Fraud	107	42	71,8%
	Fraud	56	80	58,8%
		Overall Percentage		65,6%

Hypothesis testing in this study was carried out with logistic regression analysis and a significance level of 0.05. The regression equation is shown as follows:

$$\mathbf{FRAUD} = -0,942 + 0,538\mathbf{ACHANGE} + 0,017\mathbf{LEV} - 0,051\mathbf{ACMEET} - 0,042\mathbf{REPUT} + 0,572\mathbf{AUDCHANGE} + 1,367\mathbf{DCHANGE} + 0,063\mathbf{PICSIZE} + 0,816\mathbf{COLL} + \mathbf{e}$$

Berikut ini menunjukkan hasil pengujian hipotesis penelitian sebagai berikut:

Table 9 Hypothesis Testing Results

Variable	Regression Coefficient	Significance	Significance Description
ACHANGE	1.984	.001	H1 Retrieved
LEV	.479	.104	H2 rejected
ACMEET	-.045	.065	H3 Retrieved
REPUT	-1.026	.004	H4 rejected
AUDCHANGE	.791	.072	H5 rejected
DCHANGE	.997	.001	H6 Retrieved
PICSIZE	.004	.654	H7 rejected
COLL	.560	.053	H8 rejected

DISCUSSION

The first hypothesis states that financial stability has a positive effect on financial statement fraud. From the results of hypothesis testing, the financial stability

variable obtained a regression coefficient value of 1.984 and a significance level of 0.001. The significance value is greater than 0.05, so it can be concluded that the first hypothesis is accepted. The findings of this study are the same as the research of Achmad et al. (2022) which shows that financial stability has a positive impact on financial statement fraud. When the value of the company's asset growth fluctuates, management will be under pressure to adjust the financial statements to make the company's asset growth look stable so that management is required to maintain their financial stability.

The second hypothesis, external pressure has a positive effect on financial statement fraud. Hypothesis testing of the external pressure variable shows a regression coefficient value of 0.479 with a significance level of 0.104 (greater than 0.05), so it can be concluded that the second hypothesis is not accepted because it is not significant. Consistent with research by (M. P. Sari et al. (2022) and Novarina & Triyanto (2022), the leverage ratio used as a measure of external pressure variables in this study has no effect on financial statement fraud. The leverage ratio is not the only factor considered when investing or lending money to a company, there are other considerations such as the company's track record in paying previous debts, reputation and good cooperation between the company and creditors.

The results of the third hypothesis state that the effectiveness of supervision has a negative effect on financial statement fraud. Hypothesis testing of the supervisory effectiveness variable obtained a regression coefficient value of -0.045 and a significance level of 0.065 (greater than 0.05). Based on these results, it can be concluded that the effectiveness of supervision has a negative effect on fraudulent financial statements. This means that financial statement fraud can be reduced by frequent meetings held by the audit committee. This research is in accordance with the research of Zgarni et al. (2016) shows that companies whose audit committees are independent and hold meetings more than twice a year are less likely to be sanctioned for financial statement fraud or misleading reporting.

The fourth hypothesis is that the quality of external auditors has a negative effect on financial statement fraud. Hypothesis testing of the external auditor quality variable shows a regression coefficient of -1.026 with a significance level of 0.004 (smaller than 0.05). Thus it can be concluded that the fourth hypothesis is rejected because the quality of external auditors has a positive effect on financial statement fraud. The findings of Tsipouridou & Spathis (2012) and Yaşar (2013) show that there is no significant difference in the results between companies audited by BIG4 auditors and non-BIG4 auditors among companies involved in financial statement fraud. If the resources of a large accounting firm are not used to provide independent advice, the quality or qualifications are no better than those of a smaller accounting firm. The Enron Andersen case is proof of this. KAP

Anderson was a large accounting firm with significant resources when he became Enron's auditor.

The fifth hypothesis, auditor changes have a positive effect on financial statement fraud. Hypothesis testing of the auditor change variable produces a regression coefficient of 0.791 and a significance level of 0.072 (greater than 0.05), so it can be concluded that the fifth hypothesis is not accepted because it is not significant. This research is consistent with the findings of Sari et al. (2022) and Achmad et al. (2022) which state that auditor changes do not encourage companies to engage in financial statement fraud. This can occur because the company changes auditors based on a predetermined contract or other issues such as dissatisfaction with the performance of the previous auditor.

The sixth hypothesis, changes in directors have a positive effect on financial statement fraud. Hypothesis testing of the variable change of directors shows a regression coefficient value of 0.997 and a significance level of 0.001 so that the sixth hypothesis is accepted because it is below the significance level of 0.05. This research is the same as research by Sari et al. (2022) and Jannah et al. (2021) which revealed that changes in directors have an effect on financial statement fraud. Changes in directors lead to unstable control over company activities. This can be a lack of control and command so that it can be exploited by company management who have the ability and take advantage of it (committing fraud).

The seventh hypothesis, CEO photo size has a positive effect on financial statement fraud. Hypothesis testing of the CEO photo size variable shows a regression coefficient value of 0.004 and a significance level of 0.654, if the significance value is greater than 0.05, it can be concluded that the seventh hypothesis is not accepted because it is not significant. The findings of this study do not support the research of Kim (2018) and O'Reilly et al. (2014). The size of the CEO photo is not a form of arrogance and power from the CEO of the company, but is limited to introducing the profile of the company, the performance of the peer company and what has been achieved is proof that the company operates in accordance with its vision and mission.

The eighth hypothesis states that the company's cooperation with the government has a positive effect on financial statement fraud. Hypothesis testing of the variable company cooperation with the government shows a coefficient value of 0.560 and a significance level of 0.053, meaning that the eighth hypothesis is not accepted because it has a significance level above 0.05. Collusion is one of the factors that influence the occurrence of fraud in government project cooperation, but in reality, if there is fraud in cooperation with government projects, it will result in the company being blacklisted. Thus, not all companies that work with the government commit acts of collusion. Companies that cooperate with the government prove that the company's performance is good,

so the government dares to offer cooperation, while proving that the chosen company does not cheat (Novarina & Triyanto, 2022).

CONCLUSION

The conclusion of this study is that financial stability representing the perspective of stimulus, the quality of external auditors representing the perspective of opportunity, and changes in the board of directors representing the perspective of capability have a significant effect on financial statement fraud. Next, external pressure representing the perspective of stimulus, supervisory effectiveness representing the perspective of opportunity, auditor changes representing the perspective of sationalization, CEO photo size representing the perspective of arrogance, and cooperation between the company and the government representing the perspective of collusion have no effect on fraudulent financial statements in infrastructure, utilities and transportation companies listed on the IDX for the period 2017-2022. The use of samples, companies in other sectors on the IDX and the use of other measurements can be taken into consideration in future research.

LIMITATION

The limitations of this study are as follows:
1. Limited Significance of External Pressure: The second hypothesis, which posits that external pressure has a positive effect on financial statement fraud, was not supported by the findings. However, it's important to acknowledge that the measure used for external pressure, the leverage ratio, may not capture all aspects of external pressure, such as a company's reputation or creditor relationships.
2. Lack of Generalizability: The study's findings are based on data from infrastructure, utilities, and transportation companies listed on the IDX for the period 2017-2022. This limited sample may not be representative of all industries or time periods, and the results may not apply universally.
3. Quality of External Auditors: While the study found that the quality of external auditors has a positive effect on financial statement fraud, it's important to note that the results conflict with some prior research. The study's measure of auditor quality and the factors influencing it may not fully capture the complexities of auditor-client relationships.
4. CEO Photo Size: The study did not find a significant relationship between the size of CEO photos in company profiles and financial statement fraud. However, this measure may not fully capture the influence of CEO image or reputation on fraudulent activities, and the significance level was relatively high.

5. Government Cooperation: The eighth hypothesis, suggesting that a company's cooperation with the government has a positive effect on financial statement fraud, was not supported by the findings. However, the study acknowledges that not all companies that cooperate with the government engage in fraudulent activities. Further investigation into the dynamics of government cooperation and fraud prevention may be warranted.

6. Scope and Time Period: The study focused on a specific sector (infrastructure, utilities, and transportation) and a limited time period (2017-2022). The results may not be applicable to other industries or time frames.

7. Measurement Choices: The study's choice of variables and measurement methods may not fully capture the complex and multifaceted nature of financial statement fraud. Different measures or variables might yield different results.

8. Sampling: The study used a specific sample of companies, which may not represent the entire population of relevant firms. Expanding the sample to include companies from other sectors or exchanges could provide a more comprehensive understanding.

9. Future Research: The study suggests potential avenues for future research, including exploring different industry sectors, utilizing alternative measurements, and examining the influence of additional variables not considered in this study.

10. Causality: The study's findings establish associations but not causality. Further research may be needed to explore the causal relationships between the identified factors and financial statement fraud.

In conclusion, while this study provides valuable insights into the determinants of financial statement fraud, it is essential to consider these limitations when interpreting the results and applying them to different contexts or industries.

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