



# Board Characteristics and Financial Statement Fraud: Evidence from Indonesian Public Companies

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**Abstract.** The ineffectiveness of the corporate governance structure as a monitoring mechanism is identified as one of the causes of financial statement fraud. This implies that the implementation of good corporate governance can mitigate financial statement fraud. In the governance structure, the board plays an important role in supervising the company's activities. Effective oversight helps the company to conduct its business properly and prevent the perpetration of fraud. The aim of this study is to identify whether board characteristics can mitigate financial statement fraud in public companies in Indonesia. This study investigates financial statement fraud with the financial shenanigans' ratios: Days' Sales Outstanding Growth (DSOG), Cash Flow from Operating Divided by Net Income (CFFONI) and Accounts Receivable Divided by Sales (ARSAL), while board characteristics is measured by board size, board independence, and frequency of board meetings. This study was analyzed using multiple linear regression methods to test three hypotheses and three measures of financial statement fraud. The data processed and analyzed are derived from the annual reports of public companies in the non-financial sector industry listed on the Indonesia Stock Exchange (IDX) with a total sample size of 733. The study findings suggest that board characteristics play an important role in conducting effective oversight to reduce the likelihood of financial statement fraud.

**Keywords:** Board, Financial Shenanigans, Fraud, Governance, Oversight.

## 1. INTRODUCTION

A white-collar crime known as financial statement fraud is typically committed by insiders in management who want to show the company in a more positive financial light. The motivations of fraudsters can include personal benefit, such as performance-based wages, enhancing the company's brand by deceiving potential investors, or simply buying time until losses and errors in the financials can be appropriately rectified (Beaver, 2022).

According to a survey conducted by ACFE Indonesia, 239 instances of fraud were indicated in Indonesia and although the percentage of fraud originating from financial statements was only 9.2%, the country still suffered losses of more than IDR 242 billion. The survey findings also show that managers are the ones who commit the most fraud (ACFE, 2020). The financial statement fraud in the case of PT Garuda Indonesia (Persero) Tbk in 2019 was evident when the company overstated its 2018 financial statements by USD 180 million as a result of premature revenue recognition (Sandria, 2021). Another case of financial statement fraud was found at PT Tiga Pilar Sejahtera Food Tbk in 2018. The auditor's findings showed that the company's receivables, inventories, and fixed assets in the 2017 financial statements contained overstatement of funds of IDR 4 trillion. The auditor also found an increase in sales items of IDR 622 billion and an increase in earnings before interest, tax, depreciation, and amortization of IDR 329 billion (Wareza, 2019).

The empirical investigation of corporate governance mitigation against fraudulent financial statements has been conducted in a number of studies. Significant evidence from earlier research shows that corporate governance is useful in lowering financial statement fraud (Magnanelli et al., 2017; Razali & Arshad, 2014). While other studies found that corporate governance cannot fully reduce financial statement fraud (A. Girau et al., 2022; Arum et al., 2023; Uwuigbe et al., 2018). Thus, further research should be conducted to examine the mitigation of corporate governance against financial statement fraud.

Numerous studies have been carried out with the Beneish M-Score to identify indications of fraudulent financial statement (Adoboe-Mensah et al., 2023; Gyawali, 2021; Harpan & Kuntadi, 2023; Hołda, 2020; Kukreja et al., 2020; Maccarthy, 2017; Ratmono et al., 2020). In addition, previous research also measured fraudulent financial statements using the Dechow F-Score (Aghghaleh et al., 2016; López-Vizcaíno et al., 2024; Marais et al., 2023; Ratmono et al., 2020) and Altman Z-Score (Kukreja et al., 2020; Maccarthy, 2017). These models require complicated calculations to get a signal that a company is indicated to have committed fraudulent financial statements. Meanwhile, the use of simpler financial ratios is needed to detect early the possibility of fraud in financial statements. Several studies have tested financial ratios to detect fraud in financial statements (Arum et al., 2022; Kaminski et al., 2004; Kanapickienė & Grundienė, 2015; Tarjo et al., 2023; Zainudin & Hashim, 2016). In contrast to research that measures fraudulent financial statements using complicated formulas, the use of financial shenanigans ratios is simpler and can be calculated only with a concise formula.

The identification of earnings manipulation, the most common method used by entity management to control sales and profits simultaneously, is one of the shenanigan financial ratios used to identify fraud. A number of financial ratios, such as Days' Sales Outstanding Growth (DSOG), Cash Flow from Operating Divided by Net Income (CFFONI), and Accounts Receivable Divided by Sales (ARSAL), are used to identify earnings manipulation as a sign of fraud in financial statements (Sakti et al., 2020; Schilit et al., 2018).

This study uses financial shenanigans ratios to investigate signs of fraudulent financial statements. A financial choice requires the availability of financial information to interested parties. An entity's financial

situation can be summed up using ratio analysis based on financial data. When interested parties analyse the entity's financial performance, it should be simpler to convey indications when financial ratios are used. Therefore, indications of fraud in financial statement can also be found through financial ratio analysis.

Corporate governance also emphasizes the effectiveness of the board, which is responsible for monitoring the organization's activities. In this study, board effectiveness is attributed to board characteristics which identified by board size, board independence, and frequency of board meetings. According to agency theory, more boards, more independence, and effective meetings can reduce information asymmetry and ensure the accuracy of financial reporting. Higher numbers on the board have also been associated with higher-quality financial reporting and are often better at recommending to the company, especially in difficult situations (Hsu & Yang, 2022).

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The agency theory posits that a company's separation of ownership and management results in a misalignment of interests between shareholders, who aim to create value for the company, and management, who seek to increase their power and position within the company, as well as their own personal gain at the expense of shareholders. Reducing conflicts of interest and information asymmetry can be achieved through appropriate supervision systems that align the interests of different portions of the firm. Monitoring can be implemented using corporate governance methods in line with agency theory's goals (Jensen & Meckling, 1976).

Financial statement fraud is defined as an intentional act of fraud when information is provided to users of financial statements that is misleading owing to inaccuracies and manipulation in the financial statements' presentation (ACFE, 2020). This is a significant omission or intent that could affect interested parties' decisions. The goal of financial statement fraud is to maintain high stock prices, which give investors the impression that their investments are secure. The encouragement of the issue of bonds and shares in the capital market is another fundamental component of financial statement deception (Zimbelman et al., 2014).

Corporate governance is an approach to resolving conflicts of interest between principals and agents through the disclosure of financial information. Corporate governance also plays a significant role in preventing insider trading and reducing information asymmetry in stock market transactions. A company's ability to prevent financial reporting fraud is enhanced by good governance structures, and each type of structure has a distinct impact on probable bankruptcy, earnings manipulation, and financial statement fraud (Martins & Ventura Júnior, 2020).

Retracing the history of deception, it seems that opportunity and pressure have important roles to play. Opportunity is significant from a governance perspective as this provides an opportunity for fraud resulting from weak corporate governance. Pressure is another crucial element, which might be from the financial markets or from internal sources. Even in situations where people are under pressure to perpetrate fraud, a firm's internal control mechanisms can nevertheless be strengthened through governance (Akyol, 2020). Additionally, implementing effective corporate governance at all organizational levels can reduce the likelihood of fraud caused by opportunity and rationalization (Rohmatin et al., 2021). Hence, good corporate governance is essential to reduce the incidence of financial statement fraud (Md Nasir & Hashim, 2021; Mousavi et al., 2022; Popa (Sabău) et al., 2024; Rostami & Rezaei, 2022; Yang et al., 2017).

Concerning the size, independence, and frequency of board meeting, this study examines corporate governance. Agency theory contends that increased board oversight—that is, more boards, greater independence, and effective meetings—can lessen information asymmetry and ensure the integrity of financial reporting. Greater numbers on the board are also frequently better at making recommendations to the business, particularly in challenging circumstances, and this has been linked to higher-quality financial reporting (Hsu & Yang, 2022).

Mixed results were reported about effective monitoring dependent on board size. Previous research has shown that a large number of board members tend to boost their supervisory capacity, improve their information sources, and create better environmental links by exhibiting greater competence (Bănărescu 2014). However, according to Alzoubi and Selamat (2012), smaller boards are more productive since they are easier to administer, and the board members can communicate well with one another, reducing potential misunderstandings.

Board size is one of the board characteristics that is a crucial element of the corporate governance structure. Board size is an important characteristic since it must be appropriate for the organization's responsibilities and needs. Internal and external factors such as organizational structure complexity, industries, legal, economic, and political climate all have a significant impact on board size (Noor & Fadzil, 2013). Previous studies on the effect of board size on the likelihood of financial statement fraud yielded varied results. According to some studies, the larger the board, the less effective its role in supervision is. A large board size can cause challenges in communication and cooperation among board members, resulting in organizational issues. The smaller the board size, the more effective the supervisory role is, and hence the likelihood of financial statement fraud decreases (Rostami & Rezaei, 2022). In contrast, several research have discovered a positive relationship among board size and oversight duty (Ebaid, 2023; Pucheta-Martínez & Gallego-Álvarez, 2020; Singh et al., 2018). A limited board size may increase members' burdens and responsibilities, deteriorating their monitoring roles (A. Girau et al., 2022). Instead, other research findings indicate that there is no significant relationship between board size and the effectiveness of its oversight role (Razali & Arshad, 2014). The first hypothesis developed in this study based on the previous description is:

*H<sub>1</sub>: Board size can mitigate financial statement fraud.*

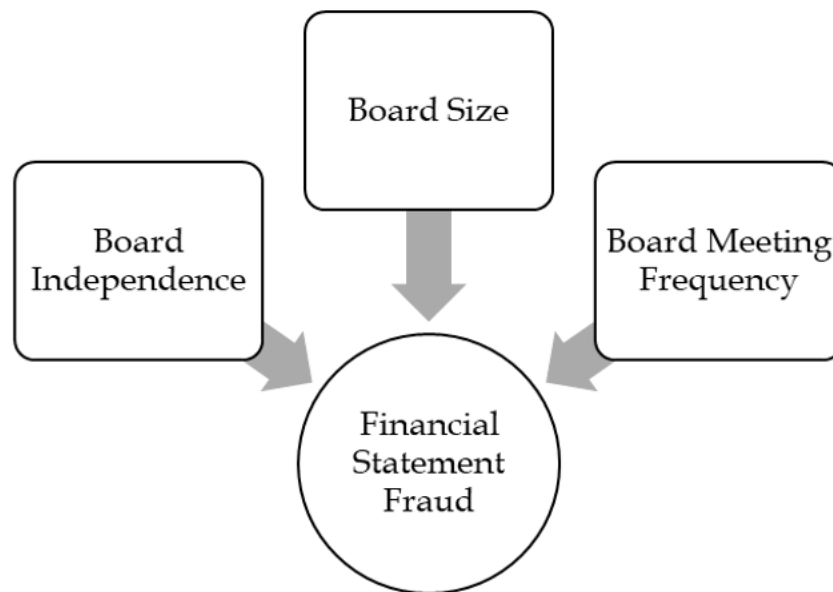
Board performance will increase if it is supported by the objectivity of independent board members and thus utilizes the company's resources better (Byrd & Hickman, 1992). The neutrality of independent board members assists to improve the board's performance and, as a result, the company's resources are better utilized (Usman Miko & Kamardin, 2015; X. Wu & Li, 2015). In addition, board independence can encourage better company performance (Liu et al., 2015; Pucheta-Martínez & Gallego-Álvarez, 2020). Previous research findings have shown mixed results. Some studies indicate more independent boards will reduce the likelihood of financial fraud (Busirin et al., 2015; Ghafoor et al., 2022; Liu et al., 2023). Several research findings, on the other hand, showed that board independence had no effect on financial statement fraud (Rashid, 2018; Yang et al., 2017). The second hypothesis developed in this study based on the description earlier is:

*H<sub>2</sub>: Board independence can mitigate financial statement fraud.*

According to agency theory, management tasks necessitate sufficient oversight while keeping an eye on business activities. Board meetings, which are held and attended by board members, are one way to monitor company activity. Board meetings are necessary for monitoring, supervising, and making strategic choices. Attending board meetings allows board members to exchange ideas, encounter management, and discuss long-term goals to ensure the company's effective operation (Sahoo et al., 2023). The separation of the management and supervisory boards makes the frequency of board meetings even more important under a two-tier board structure. In this structure, supervisory board members are independent (outside) and may lack firm-specific knowledge compared to non-independent (inside) directors. As a result, a higher frequency of board meetings allows outside directors to process and consider material more effectively (Hossain & Oon, 2022). Previous study has shown that the frequency of board meetings assists to reduce financial statement fraud (Kaituko et al., 2023; Salleh & Othman, 2016). Some research findings, on the other hand, show that there is no effect of the frequency of board meetings in reducing financial statement fraud (Ebaid, 2023; Q. Wu et al., 2007). The third hypothesis developed in this study based on the previous description is:

*H<sub>3</sub>: Board meeting frequency can mitigate financial statement fraud.*

The conceptual framework of this study is illustrated in Figure 1. Financial statement fraud will be measured by three financial shenanigans ratios, namely: Days' Sales Outstanding Growth, Cash Flow from Operating Divided by Net Income, and Accounts Receivable Divided by Sales.



**Figure 1:** Conceptual Framework.

### 3. RESEARCH METHOD

This study uses a quantitative research design that analyses secondary data using parametric statistical methods. Non-financial sector public companies listed on the Indonesia Stock Exchange (IDX) constitute the research population. The sampling technique used is total sampling, which includes sampling from all members of the population, as long as the data studied can be accessed. To evaluate the research hypotheses, 733 samples were processed and analysed based on the available data. Multiple linear regression analysis performed with SPSS is the data analysis technique utilized in this research to examine board characteristics mitigation against financial statement fraud. The following is the formula for the research model:

$$DSOG_{i,t} = \alpha + \beta_1 BDSIZE_{i,t} + \beta_2 INDB_{i,t} + \beta_3 BDMEET_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} + \beta_7 GROWTH_{i,t} + \varepsilon \quad (1)$$

$$CFFONI_{i,t} = \alpha + \beta_1 BDSIZE_{i,t} + \beta_2 INDB_{i,t} + \beta_3 BDMEET_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} + \beta_7 GROWTH_{i,t} + \varepsilon \quad (2)$$

$$ARSAL_{i,t} = \alpha + \beta_1 BDSIZE_{i,t} + \beta_2 INDB_{i,t} + \beta_3 BDMEET_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} + \beta_7 GROWTH_{i,t} + \varepsilon \quad (3)$$

Description:

DSOG = Days' Sales Outstanding Growth

CFFONI = Cash Flow from Operating Divided by Net Income

ARSAL = Accounts Receivable Divided by Sales

BDSIZE = Size of the Board of Commissioners

INDB = Independent Commissioner

BDMEET = Frequent of Board Meetings

SIZE = Company Size

LEV = Debt to Asset Ratio

ROA = Return on Asset Ratio

GROWTH = Sales Growth

To provide an accurate overview of this study, the indicators used are financial shenanigans ratios and the characteristics of the board in corporate governance. Table 1 displays the variables measurement that were utilized.

**Table 1:** Variables' Measurement.

Variables	Indicators
	$DSOG = \frac{DSOt - DS0t - 1}{DS0t - 1}$
Financial Statement fraud (FSF) (Schilit, 2018)	$DSO = \frac{End\ Receivable}{Revenue} \times 365$ $CFFONI = \frac{Cash\ Flow\ Operation}{Net\ Income}$ $ARSAL = \frac{Account\ Receivable}{Sales}$ $BDSIZE = Ln\ Board\ Size$
Board Characteristics (Hsu & Yang, 2022)	$BDMEET = \frac{Number\ of\ Board\ Meeting}{FSA\ Provisions\ on\ Board\ Meeting}$ $INDB = \frac{Independent\ Board}{Number\ of\ Board}$ $SIZE = Ln\ Total\ Asset$
Controls	$LEVERAGE = \frac{Total\ Liabilities}{Beginning\ Total\ Asset}$ $ROA = \frac{Operating\ Profit}{Beginning\ Total\ Asset}$ $GROWTH = \Delta Net\ Sales$

#### 4. RESULTS AND DISCUSSIONS

The statistical data description is presented in Table 2. Based on the 733 data that has been studied, it can be seen that the mean, median, minimum, and maximum values for each variable are varied. However, the highest value is DSOG at 212.94 and the lowest is ROA at -29.08. The highest standard deviation of this study is LNSIZE at 4.85, and the lowest standard deviation is INDB at 0.12.

**Table 2:** Descriptive Statistics of Research Data.

	N	Min.	Max.	Mean	Std. Deviation
DSOG	733	0.00	212.94	2.31	3.26
CFFONI	733	0.00	118.25	1.52	3.36
ARSAL	733	0.00	24.87	0.46	1.65
BDSIZE	733	0.00	2.71	1.24	0.43
BDMEET	733	0.00	49.00	6.46	4.15
INDB	733	0.00	1.50	0.42	0.12
LNSIZE	733	8.09	32.44	23.96	4.85
LEV	733	0.00	162.60	5.12	3.08
ROA	733	-29.08	2.08	-0.05	1.19
GROWTH	733	-0.98	12.69	0.19	1.15

Table 3 displays the findings of a multiple linear regression analysis that examined at how board characteristics affected financial statement fraud as determined by DSOG. Table 3 indicates that DSOG is impacted by BDSIZE, BDMEET, INDB, and SIZE. Given that the significance value is less than 0.05, this is demonstrated.

**Table 3:** Test Results of Board Characteristics Effect on DSOG.

Variables	t	Sig	Conclusion
BDSIZE	-0.067	0.046	Accepted
BDMEET	-0.652	0.044	Accepted
INDB	-0.702	0.043	Accepted
SIZE	-1.868	0.042	
LEV	-0.249	0.803	
ROA	-0.069	0.945	
GROWTH	0.233	0.816	

Table 4 describes the multiple linear regression analysis used to examine the impact of board characteristics on financial statement fraud as determined by CFFONI measurements. Table 4 shows the relationship between CFFONI and the variables BDSIZE, BDMEET, INDB, and SIZE. The significance value, which is less than 0.05, provides this indication.

**Table 4:** Test Results of Board Characteristics Effect on CFFONI.

Variables	t	Sig	Conclusion
BDSIZE	2.244	0.025	Accepted
BDMEET	0.679	0.047	Accepted
INDB	4.420	0.000	Accepted
SIZE	-0.333	0.040	
LEV	1.687	0.042	
ROA	1.692	0.041	
GROWTH	-1.338	0.181	

Table 5 presents the results of a multiple linear regression analysis to examine the impact of board characteristics on financial statement fraud as measured by ARSAL. According to table 5, ARSAL is influenced by BDSIZE, BDMEET, INDB, and SIZE. This is demonstrated by the significance value, which is less than 0.05.

**Table 5:** Test Results of Board Characteristics Effect on ARSAL.

Variables	t	Sig	Conclusion
BDSIZE	-2.033	0.042	Accepted
BDMEET	-0.233	0.046	Accepted
INDB	-1.375	0.040	Accepted
SIZE	0.568	0.047	
LEV	0.416	0.677	
ROA	0.622	0.534	
GROWTH	0.005	0.996	

Based on hypothesis testing of the three regression model equations, it is found that board characteristics, evaluated by BDSIZE, BDMEET, and INDB, have an impact on financial statement fraud as measured by DSOG, CFFONI, and ARSAL. Thus hypothesis 1, hypothesis 2, and hypothesis 3 in this study are accepted.

The results indicate that board characteristics have an effect on financial statement fraud. This implies that adequate board supervision, with a larger number of boards, more independent, and more intensive meetings, is very important to mitigate the propensity for financial statement fraud in the entities. The findings of this study provide support for agency theory (Jensen & Meckling, 1976) and in alignment with the previous studies of Hsu & Yang (2022) and Martins & Júnior (2020).

Overly high rates of collection are a sign of revenue manipulation. The collection period might be used as a gauge for it. If the rate of each quarter or period is increasing, management is likely collecting receivables rapidly. Financial fraud is indicated by this circumstance. Investors can determine whether issues exist with the company's financial statements by looking at the growth ratio of the collection period (DSOG). The study's findings suggest that increased board supervision can minimized earnings manipulation by hastening receivables collection. An excessive degree of receivables collection is also prevented by oversight from a more independent board. Intense board meetings have also been shown to prevent earnings manipulation, a kind of financial statement fraud carried out by shortening the collecting time.

Getting a consistent return is the aim of investment. Management problems could arise from unpredictable outcomes. To maintain the stability of the organization's earnings, management takes several measures in response to the pressure. According to Schilit (2010), tampering with net income will have an effect on operating cash flow. As a result of the manipulation of net income, there will be a discrepancy between net income and cash flow from operations, as the company has disclosed. The cash flow from operations to net income ratio (CFFONI) is an effective tool for investors to identify instances of suspicious financial activity.

Uncertainty in receivables collection is reflected in bad loans; investors find this situation to be very unattractive and it may put pressure on management to conduct fraud. In situations where receivables are being received faster than sales, it can lead to issues and be a warning sign of financial malfeasance when long-term receivables that should be billed over a longer period of time are billed prematurely (Schilit et al., 2018).

Based on the results of tests conducted on financial statement fraud as measured by DSOG, CFFONI, and ARSAL, empirical evidence is obtained that size, independence, and frequency of board meetings are factors that have a significant effect. The finding of the study is consistent with what was found of prior studies (Noor &

Fadzil, 2013) which indicated that board size affects financial statement fraud. More supervision is possible with a larger board. There is a lower probability of falsifying financial statements when there are more boards in charge. The likelihood of fraud will still be reduced even with the moderate number of boards if the supervisory role is performed well. The results of the study demonstrate how board independence influences financial statement fraud. The results of the study demonstrate how board independence influences financial statement fraud. The finding is consistent with earlier research (Busirin et al., 2015; Ghafoor et al., 2022; Liu et al., 2023). The research findings also suggest that there is a relationship between financial statement fraud and the frequency of board meetings. The finding is consistent with earlier research (Kaituko et al., 2023; Salleh & Othman, 2016).

## 5. CONCLUSION AND RECOMMENDATION

This study investigates the mitigation of oversight role of governance structure, i.e. board characteristics, on financial statement fraud as measured by financial shenanigans ratios. This study verifies that the role of oversight is very important in preventing financial statement fraud. This study also verifies that simple financial ratios can be used to measure financial statement fraud. The effectiveness of board oversight, as measured by board characteristics, is proven to mitigate financial statement fraud. Board characteristics as measured by board size (BDSIZE), board independence (INDB), and frequency of board meetings (BDMEET) are proven to affect financial statement fraud of non-financial companies listed on the Indonesia Stock Exchange. Company size (SIZE), leverage ratio (LEV), profitability ratio (ROA), and growth ratio (GROWTH) are used as control variables that are also tested in the logistic regression equation. The use of control variables is intended to minimize the influence of other variables in the relationship of the variables studied. Financial statement fraud is measured by three financial ratios, namely Days' Sales Outstanding Growth (DSOG), Cash Flow from Operating Divided by Net Income (CFFONI), and Accounts Receivable Divided by Sales (ARSAL), so there are three regression equations examined in this study. The intention of using these three ratios is to obtain empirical evidence of the financial ratios that most represent financial statement fraud. The research findings show that the more the size of board, the more independent, and the more frequency of board meetings, the smaller the chance of financial statement fraud.

This study provides various academic and practical contributions. Academically, the first implication of this study is the inclusion of empirical studies that bolster agency theory by emphasizing the importance of supervision in business activities. The second implication is the inclusion of empirical evidence that discusses the mitigation of board supervision as corporate governance in preventing financial statement fraud. The third implication, this study proves that increased supervision with a larger size of boards, more independent, and more intensive meetings are important factors in preventing financial statement fraud. The practical implication of this study includes providing recommendations to stakeholders on how to detect financial statement fraud by estimating the financial ratio of shenanigans. The next implication is that it can assist both companies and regulators in strengthening the oversight process to prevent financial statement fraud.

The study has several disadvantages. First, this study provides insight only one aspect of the governance structure, namely the characteristics of the board. Second, the observation only included 733 non-financial companies listed on the IDX. Third, this study exclusively employs quantitative tools to assess the effectiveness of supervision in preventing financial statements fraud. Fourth, financial statements fraud is only assessed using three financial shenanigans ratios. Given these limitations, further studies ought to examine at other aspects of corporate governance structure to acquire a more thorough understanding of preventing financial reporting fraud. The next study can conduct inquiries using both quantitative and qualitative methodologies. Another investigation can use additional financial ratios as proxies of financial statement fraud. Furthermore, greater study is required to develop more effective corporate governance strategies for preventing financial fraud.

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