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FRAUDULENT FINANCIAL STATEMENT IN BUMN LISTED ON INDONESIA STOCK EXCHANGE: *FRAUD HEXAGON THEORY* APPROACH

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ABSTRACT

This study aims to analyze the factors that influence fraudulent financial statement based on the *fraud hexagon theory* approach which reduces the existence of pressure variables with liquidity and *leverage* proxies; opportunity with KAP *Big 4* proxies and the proportion of independent commissioners; rationalization proxy auditor change, capability proxy CEO *experience* and CEO *education*, arrogance with proxy Frequency Photo Of CEO and collusion with proxy *audit fee.* The object of research is 22 BUMN companies listed on the Indonesia Stock Exchange for the period 2019-2023 with a total of 110 data obtained through *purposive sampling.* The analysis method used is panel data binary logistic regression. The results showed that KAP *Big 4* had a negative effect*; ceo education* had a negative effect and *audit fees* had a positive effect on fraudulent financial statement while the variables of liquidity, *leverage*, proportion of independent commissioners, auditor change, *ceo* experience and Frequency Photo Of CEO had no effect on fraudulent financial statement. This research provides policy and practice development against fraudulent financial statement by regulators.

1. INTRODUCTION

One of the important things that a company uses to present information related to the company's operations and financial condition is the financial

statements (Putri & Nugroho, 2021). With financial statements, users of financial statements can assess the performance of a company in one period whether it shows good performance or vice versa. By looking at the urgency of these financial statements, the financial statements must be prepared accurately, transparently and in accordance with applicable principles so that they can provide relevant and reliable information for stakeholders (Jao et al, 2020). A company is obliged to present its financial statements according to the reality of the company's performance based on established regulations. However, in reality, it is not uncommon for a company to manipulate or present information that does not match the company's performance in a certain period with the intention of giving the impression that the company is producing good performance (Riandani & Rahmawati, 2019). Based on a survey conducted by the *Association of Certified Fraud Examiners* Indonesia,(2019) shows that cases of fraudulent financial statement with losses under 10 million are ranked first with a percentage of 67.40% then misuse of assets shows a percentage of 63.60% and followed by corruption of 48.10%. Meanwhile, losses caused by fraudulent financial statements with a nominal value above 10 billion showed a percentage of 5%, ranked second under corruption with a percentage of 5.4%.

The occurrence of a fraudulent financial report in the company will certainly have an impact on the stability of a company, the company will experience financial losses and public confidence in the company will decrease (Fahreza et al, 2020). Cases of fraudulent financial statement can occur in various industrial sectors, both in the financial and non-financial sectors (Nejad et al, 2024). One company that is vulnerable to fraud is a state-owned company. Based on Law No.19 of 2003, it explains that BUMN is a state-owned enterprise that plays an important role in national economic growth in Indonesia. *Association of Certified Fraud Examiners,*(2020) shows that BUMN is ranked second as an institution that is disadvantaged by fraud. Based on Khumairoh et al,(2023) also explains that *go-public* BUMN companies are more vulnerable to fraud than companies that have not *gone public*. In Indonesia, there are several cases that indicate fraud in financial statements involving state-owned companies *going public*, one of which involves PT Waskita Karya in 2016-2021. This company is suspected by BPKP to have manipulated its financial statements. This suspicion arose because there were irregularities, where the company recorded a large profit even though its operational cash flow was negative, especially in 2021. The suspicion was further strengthened after reports emerged of fictitious projects involving a number of company officials during that period. At the end of 2022, it was revealed that the supporting documents for the project were forged, which then led to the arrest of former PT Waskita Karya officials. Furthermore, in 2023, BPKP completed the audit process and submitted the results to the Ministry of BUMN for further legal steps (CNBC, 2023) .

Research related to the influence of *fraud hexagon theory* on fraudulent financial statement has been carried out by many researchers from year to year. However, from several studies that have occurred, they provide inconsistent results so that more in-depth research needs to be done. In the *fraud hexagon theory, the* encouragement or demands experienced are the main triggering factors for fraudulent financial statements (Sari & Nugroho, 2020). Liquidity is one of the indicators in the pressure for fraudulent financial statement (Listyawati, 2020). Liquidity is used to show the ability of a company to settle its short-term obligations (Ndruru & Sipahutar, 2020). If a company has a low liquidity level, it shows that the company fails to fulfill its short-term obligations, causing management to commit fraudulent financial statement in the form of manipulating the company's liquidity level. This is done to show as if the company has good performance (Nurcahyono et al, 2021). This assumption is supported by a study conducted by Nurcahyono et al, (2021); Fitri et al, (2019) stating that liquidity has a negative effect on fraudulent financial statement. Meanwhile, a study conducted by Fahreza et al, (2020) shows that liquidity has a positive effect on fraudulent financial statement.

Pressure is also measured by *leverage.* A high *leverage* ratio indicates that the company has a high level of debt and has a high credit risk which is feared to fail to meet debt payment obligations which leads to potential bankruptcy (Mustakim & Kurniawati, 2025) . This is what makes the impetus for company management to manipulate the amount of debt in order to gain trust for investors regarding the possibility of the company violating the debt agreement. Based on a study conducted by Nadia et al,(2023) states that *leverage* has a positive effect on fraudulent financial statement. Conversely, a study conducted by Hamadi et al, (2022) stated that *leverage* has a negative effect on fraudulent financial statement. Next is opportunity, opportunity is an opportunity available in an entity that can be a trigger factor for fraudulent financial statements (Agustina & Pratomo, 2019). This is because KAP *Big* 4 is considered to have more ability in the process of auditing a company's financial statements than KAP *Non Big* 4 so that it can produce quality financial reports and avoid fraud because it has stricter procedures than KAP *Non Big* 4 (Biduri & Tjahjadi, 2024). This assumption is also supported by studies conducted by Suryani et al, (2023); Ratih & Kuntadi, (2024) explaining that KAP *Big* 4 has a negative effect on fraudulent financial statement. Meanwhile, studies conducted by Ozcelik, (2020); Nejad et al, (2024) reveal that KAP *Big* 4 has a positive effect on fraudulent financial statements.

Opportunities also arise if the supervision of independent commissioners is ineffective. As an operational supervisory board in a company that is not affiliated with company management, it is tasked with providing supervision without company intervention (Tarjo et al, 2021). With a small proportion of independent commissioners in the company, it will provide a great opportunity for management

to manipulate financial statements. This statement is in line with previous literature by Setyarahman & Januarti, (2025) that the proportion of independent commissioners has a negative effect on fraudulent financial statement but is not in line with the study by Ningsih & Reskino, (2023) stating that the proportion of independent commissioners has a positive effect on fraudulent financial statement. A fraud can occur if the perpetrator feels that what is being done is permissible or known as rationalization (Kurniawati & Sarwono, 2024). One way the company rationalizes the fraud that occurs is by changing the auditor in the company. The company changes the auditor because the company does not want the fraud committed to be unknown to the public. If the company often changes auditors with new auditors, it shows that the company wants to cover up fraud in the company. This statement is in line with previous research conducted by Lastanti, (2020); Wilantari & Ariyanto, (2023) that auditor change has a positive effect on fraudulent financial statement. However, it is inversely proportional to the research of Agusputri & Sofie (2019); Riany et al, (2024); Pradana & Suwasono, (2024) that auditor change has a negative effect on fraudulent financial statement.

In addition, fraud can occur if someone has the ability or skill that someone has (Sari & Nugroho, 2020). Capability is a skill that a person has for certain things. A person's ability to commit fraud can also arise from the experience a CEO has or known as CEO *experience*. The longer someone serves as CEO, the more the CEO knows how the right conditions are in committing fraud (Y. Putri & Suryani, 2024). This proves that the higher the experience the CEO has, the higher the chance of fraud. This is in line with previous literature studies Alhmood et al,(2024); Wangi et al, (2024) that CEO *experiance* has a positive effect on fraudulent financial statement, but research conducted by Silaban & Zainal, (2021); Masruroh & Carolina, (2022); Muttakin & Khan, (2025) states that CEO *experiance* has a negative effect on fraudulent financial statement. In addition, the CEO's ability can be interpreted by the level of education possessed by the CEO. With higher education owned by the CEO, it will make him a qualified person (Y. Putri & Suryani, 2024) . CEOs who have higher education will also improve the quality of financial reports with their skills so that the opportunity for fraudulent financial reports will decrease. This statement is in line with research by Haeronnisa & Isnawati, (2024); Probohudono et al, (2022) that CEO education has a negative effect on fraudulent financial statement. However, it is not in accordance with the research of Sihombing & Panggulu, (2022) that CEO education has a positive effect on fraudulent financial statement.

The arrogance of a CEO is also a trigger for fraud in the company. The CEO feels that his position can help him be immune from the rules in the company, one of which is fraud (Khamainy et al, 2022). The arrogance of the company can be seen by the number of CEO photos in the *annual report*. The more photos in the *annual*

report, the more it shows the high ego of a CEO which has the potential for fraudulent financial statement (Sari & Nugroho, 2020). This is in line with the study by Achmad et al, (2022) which states that the number of CEO photos that appear has a positive effect on fraudulent financial statement but is inversely proportional to the study conducted by Triyanto, (2020) explaining that the frequency of CEO photos has a negative effect on fraudulent financial statement. The last factor in the occurrence of fraudulent financial statements described in the *fraud hexagon theory* is collusion. Where companies cooperate with certain objectives for personal gain (Achmad et al, 2022). One indicator that can be used in explaining collusion is the *audit fee. Audit* fees are fees for audit services that have been performed on auditors. By providing an *audit fee* that is not reasonable or too high, it can indicate how a company cooperates with auditors to cover up fraud that occurs in the company (Lee & Ha, 2021). This statement is in accordance with the study conducted by Sihombing & Panggulu, (2022) but this statement is not in accordance with the study conducted by Khan et al, (2023) that *audit fees* have a negative effect on fraudulent financial statement.

Based on the description, phenomena and previous research that explains the effect of *fraud hexagon theory* based on pressure, opportunity, rationalization, capability, arrogance and collusion on fraudulent financial statements in state-owned companies *going public* in Indonesia shows inconsistent results so that this research is feasible and interesting to study further. In addition, this research was conducted because there are still frequent frauds involving BUMN companies *going public* which have an impact on large losses to the economy of a country, especially Indonesia. This study aims to analyze the effect of *fraud hexagon theory* based on pressure, opportunity, rationalization, capability, arrogance and collusion on fraudulent financial statements that occur in state-owned companies *going public* by updating the research year which is expected to provide more valid results in terms of the research period to assess company performance, especially state-owned companies *going public*. Furthermore, this research also contributes to the development of better policies and practices in state-owned companies *going public* in Indonesia to reduce the occurrence of fraud cases in the company's financial statements which will have an impact on the welfare of society (Achmad et al, 2022) .

2. LITERATURE REVIEW

Fraud Hexagon Theory

Fraud hexagon theory is a development of previous fraud theories such as fraud triangle theory, fraud pentagon theory and fraud diamond theory. In the fraud hexagon theory, there are six variables that explain the triggers for fraud, including pressure, opportunity, rationalization, capability, arrogance and

collusion. Fraud hexagon theory was developed by Vousinas, (2019). Pressure is the first trigger for fraud, where someone gets big demands (Shahzadi et al, 2024). Pressure can be in the form of internal pressure and external pressure, in this study the pressure is measured through the liquidity ratio and leverage ratio. Then opportunity, fraud will occur if there are opportunities available, one of which is the use of KAP including KAP big 4 or non big 4 and supervision of independent commissioners. Rationalization is the next triggering factor in fraud hexagon theory, rationalization is the justification for someone's fraudulent actions (Kurniawati & Sarwono, 2024). Rationalization in the occurrence of fraud can be interpreted by a change of auditors. Furthermore, capability is the skill and attitude of a person who plays an important role in the occurrence of fraud (Sari & Nugroho, 2020). Capability in the occurrence of fraud is interpreted by CEO experience and CEO education. Then arrogance is measured by the frequency of CEO photos in the annual report. Arrogance shows the superiority of a CEO in an entity (Sari & Nugroho, 2020). Then collusion as the last variable in the fraud hexagon theory is measured through audit fees. Collusion is cooperation to obtain certain goals for personal gain (Achmad et al, 2022) .

Fraudulent financial statement

Actions taken by individuals intentionally that aim to manipulate information and data from financial statements that will benefit these individuals and harm others are defined as acts of fraudulent financial statement (Putri & Januarti, 2023). According to SAS No.99, fraudulent financial statement can also be interpreted as a deliberate plan to deceive users of financial statements (Tarjo et al, 2021). The occurrence of fraudulent financial statements in the company can be caused by an assessment of the company's performance based on financial statements. So that this encourages company management to do various things including fraudulent financial statement so that the financial statements presented can attract the attention of users of financial statements including investors (Nurhakim & Harto, 2023). There are various types of fraudulent financial statement, including manipulating data and falsifying evidence or concealing material information in the company's annual report (Achmad, Ghozali, Helmina, et al, 2022). The existence of fraudulent financial statements is clear evidence of the negative impact that will threaten the reputation and sustainability of the company that will be felt by the company (Alfarago & Mabrur, 2022). Cases of fraudulent financial statement can occur at various levels of the organizational structure contained in companies such as company executives, shareholders and company management (Naldo, 2023). This is reinforced by the results of the ACFE survey which states that those who often violate company policies and laws are company managers (ACFE, 2022).

HIPOTHESIS

The Effect of Pressure on Fraudulent Financial Statement in BUMN

As the main triggering factor for fraudulent financial statements in the *fraud hexagon theory,* pressure is a condition where someone gets excessive *pressure* for a specific purpose (Hidayat, 2024) . Likuditas is one of the pressures that can be felt by companies. Liquidity is a ratio used to measure the company's ability to pay short-term debt. With the liquidity ratio, external parties can determine the stability of a company. If the company has a low liquidity ratio, the more difficult it is for the company to complete its responsibility to pay off short-term debt. This condition can encourage companies to manipulate financial statements, so that the liquidity value shows good performance (Nurcahyono et al, 2021) . It can be concluded that the lower the company's liquidity ratio, the higher the opportunity to manipulate financial statements. This assumption is in line with the study conducted by Nurcahyono et al,(2021) ; Salim & Riady,(2021) explaining that the liquidity ratio has a negative effect on fraudulent financial statement. Based on this description, the following hypothesis can be formulated:

H1 : Liquidity Has a Negative Effect on Fraudulent Financial Statement

The pressure experienced by the company can also be known by the *leverage* ratio. *Leverage* is the condition of the company managing the company's operational activities using funding from external parties (Achmad et al, 2022). If the company has a high debt value, the credit risk will also increase. With a high credit risk, creditors will hesitate to lend to the company (Nurcahyono et al, 2021). This will harm the company, so the company's management will be required so that the company can obtain loans from creditors. One of the things that management can do is change the report in the *annual report* to have a low *leverage* value. So, the higher the *leverage* ratio, the higher the opportunity for companies to manipulate financial statements in order to obtain loans from creditors. This assumption is in line with studies conducted by Nadia et al, (2023); Listyawati, (2020); Darise et al, (2021); Fathmaningrum & Anggarani, (2021); Shahzadi et al, (2024) stating that the *leverage* ratio has a positive effect on fraudulent financial statement. Based on these arguments, the following hypothesis can be formulated:

H2 : *Leverage* Has a Positive Effect on Fraudulent Financial Statement

The Effect of Opportunity on Fraudulent Financial Statement in BUMN

Opportunity is a factor that triggers fraudulent financial statement in the *fraud hexagon theory.* Opportunities can arise if there are opportunities that allow fraud to occur (Agustina & Pratomo, 2019). The available opportunities occur when

selecting a public accounting firm whether it is a *big 4* or *non-big 4* KAP. Public accounting firms included in the *big 4* include *PwC, Ernest Young, Delloite* and KPMG. Public accounting firms included in the *big 4* have superior capabilities in carrying out the audit process so as to produce quality audit reports (Yanti & Munari, 2021) . Auditors contained in the *big 4* KAP are also considered to have higher independence than *non-big* 4 KAP (Achmad, 2019) . That way, the responsibility related to disclosing misstatements in the *big* 4 KAP is greater than that of *the non-big* 4. So it can be concluded that the *big 4* KAP has the opportunity to recognize fraud in the financial statements. This assumption is in line with studies conducted by Suryani et al, (2023) and Ratih & Kuntadi, (2024) found the results that KAP *Big* 4 has a negative effect on fraudulent financial statement. Based on this description, the following hypothesis can be formulated:

H3 : KAP *Big* 4 Has a Negative Effect on Fraudulent Financial Statement

Opportunities can also arise due to ineffective supervision within the company by independent commissioners, thus providing opportunities for fraud (Maharani & Napisah, 2024) . Independent commissioners are one part of the company that has no interest and is not connected to company management. Independent commissioners are tasked with carrying out supervision of company operations without relying on outside parties. With a higher proportion of independent commissioners, supervision will also increase so that fraudulent financial statement will decrease. Conversely, if the company has a small proportion of independent commissioners, it will have an impact on the opportunity for company management to commit fraudulent financial statement because supervision will also be reduced. So it can be concluded that the more independent commissioners the higher the supervision so that the opportunity to commit fraud. Conversely, if the number of independent commissioners is small, supervision will decrease which will have an impact on the opportunity for fraud to be higher. This assumption is supported by studies conducted by Puspitha & Astari, (2024); Setyarahman & Januarti, (2025) which state that the proportion of independent commissioners has a negative effect on fraudulent financial statement. Thus, the research hypothesis can be formed as follows:

H4 : The Proportion of Independent Commissioners Has a Negative Effect on Fraudulent Financial Statement

The Effect of Rationalization on Fraudulent Financial Statement in BUMN

Furthermore, the trigger factor for fraudulent financial statement in the *fraud hexagon theory* is rationalization. Rationalization is a situation experienced by someone to justify the fraud committed (Kalovya, 2023). One way the company rationalizes the fraud that the company has committed is to replace the previous

auditor with a new auditor. An auditor is responsible for the audit process of the financial statements in that financial year, so that an auditor will know how the company is doing, including when the company commits fraud in the financial statements. One of the ways the company does so that the fraud is not known to the public is to change auditors. By changing the new auditor, the auditor will not know the fraud that has been committed by the company. So it is concluded, the more often the company changes auditors, the higher the percentage of companies committing fraudulent financial statement. This assumption is supported by previous research conducted by Lastanti, (2020); Wilantari & Ariyanto, (2023). Therefore, the following hypothesis is obtained.

H5 : Auditor Change Has a Positive Effect on Fraudulent Financial Statement

The Effect of Capability on Fraudulent Financial Statement in BUMN

In the *fraud hexagon theory*, ability is the next element that explains the occurrence of fraudulent financial statement. Ability is a skill that a person has (Sari & Nugroho, 2020) , in this case the skill to commit fraudulent financial statement. One of the things that can show the ability of a CEO is the experience of serving as CEO in the company. The longer a person's experience as CEO, the more the CEO will understand the conditions that occur in the company. This condition will be used by the CEO to commit fraud which will only benefit himself. So it can be seen, the longer the CEO's experience in the company, the higher the opportunity for the CEO to commit fraud for himself. This assumption is in line with research conducted by Alhmood et al, (2024); Wangi et al, (2024). Based on the description, the following hypothesis can be formulated:

H6 : CEO *Experience* Has a Positive Effect on Fraudulent Financial Statement

CEO *education* is formal education that has been taken from deepening knowledge through training and learning (Y. Putri & Suryani, 2024). Through higher education, the CEO has the ability to prepare better quality financial reports with the support of his knowledge and expertise. The high level of education also reflects the quality of a CEO in making the right decisions for the company without having to commit fraud (Y. Putri & Suryani, 2024) . The knowledge possessed also plays a role in creating accurate and transparent financial reports (Ge & Xiong, 2023). Therefore, the higher the level of education possessed by a CEO, the lower the chance of fraudulent financial statements. This assumption is reinforced by previous findings from Haeronnisa & Isnawati, (2024); Probohudono et al, (2022). Based on this, the hypothesis can be formulated as follows:

H7 : CEO *Education* Negatively Affects Fraudulent Financial Statement

The Effect of Arrogance on Fraudulent financial statement in BUMN

The next element in the *fraud hexagon theory that* causes fraudulent financial statement is arrogance. The superiority of a CEO shows that the CEO has a high ego (Wardhana et al, 2024). The arrogance of a CEO can be seen from the number of CEO photos in the company's *annual report* (Zahara & Ratnawati, 2024) . The more photos of the CEO in the *annual report,* the more it shows that the CEO has a high ego. This is done so that a CEO is known by the public as having a high strata in the company. As CEO, he feels that he can legalize all regulations in the company. The number of CEO photos in the *annual report* also shows that a CEO is only concerned with himself and utilizes his power while in office in order to control the company. Therefore, the more photos of the CEO in the financial statements, it can be indicated that the CEO committed fraud in the company. This assumption is also supported by studies conducted by Achmad et al, (2022); Aulia & Budiwitjaksono, (2020) explaining that the frequency of CEO photos has a positive effect on financial fraud. Thus, it produces the following research hypothesis:

H8 : Frequency Photo Of CEO Has a Positive Effect on Fraudulent Financial Statement

The Effect of Collusion on Fraudulent financial statement in BUMN

The trigger factor for the last fraudulent financial statement in the *fraud hexagon theory* is collusion. Collusion is cooperation between individuals with certain objectives that can harm other parties (Achmad et al, 2022). Collusion plays an important role as a development of previous fraud theories to find out the details of fraud in more depth (Vousinas, 2019) . One of the collaborations carried out by the company is through the *audit fee* given to the auditor. *Audit* fee is a fee given for audit services provided by the auditor to the company. The amount of the *audit fee* given by the auditor varies greatly depending on several factors when carrying out the audit process. A large audit fee given to the auditor can be used that the company is working together to cover up the fraud contained in the financial statements. With a large *audit fee* given to the auditor, it will cause the auditor to be reluctant to disclose fraud to the public. So it can be concluded that the higher the audit fee given to an auditor, the higher the percentage of companies committing fraud. This assumption is supported by studies conducted by Sihombing & Panggulu, (2022); Nejad et al, (2024) that *audit fees* have a positive effect on fraudulent financial statement. Based on these assumptions, the following hypothesis is generated:

H9 : *Audit Fee* Has a Positive Effect on Fraudulent Financial Statement

Based on the theoretical basis and the hypothesis that has been conveyed, the research model can be described as follows:

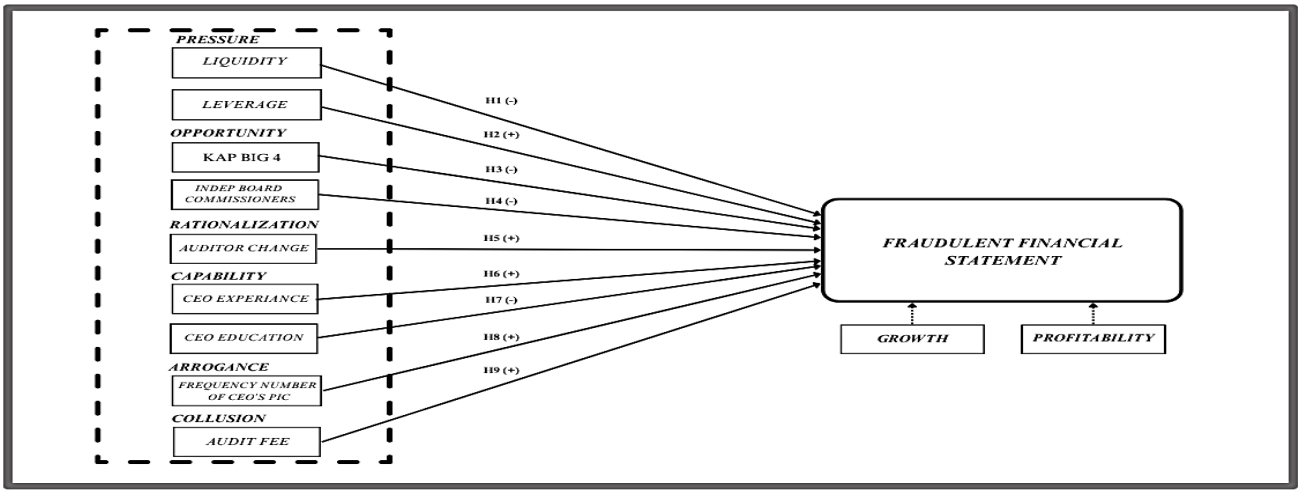

Figure 1. Research model

Source: Processed secondary data, 2025

3. METHODS

Data and Samples

This study uses secondary data obtained from the publication of annual reports of State-Owned Public Bodies (BUMN) *going public* in Indonesia. The data source is obtained from the Indonesia Stock Exchange (IDX) website which contains information on each company. The observation period in the study starts from 2019 to 2023. The data collection approach used in this study uses *balanced* panel data. Samples were obtained through *purposive sampling* with certain criteria including (1) BUMN companies listed on the Indonesia Stock Exchange in 2019-2023; (2) BUMN companies *go public* that consistently publish annual reports during the observation period; (3) companies that present complete data related to research variables on an ongoing basis during the observation period, and; (4) companies that publish financial reports in nominal rupiah.

Table 1. Research Sample

No	Description	Number of Samples
1.	BUMN companies listed on the Indonesia Stock Exchange 2019-2023	25
2.	Companies that do not present annual reports 2019-2023	(0)
3.	Companies with incomplete data 2019-2023	(0)
4.	Companies that publish financial statements with nominal rupiah	(3)
5.	Total company sample	22
	Total Data Used (22 x 5 Years)	**110**

Source: Processed secondary data, 2025

Table 2. Operational Definition & Variable Measurement Dependent Variable

Dependent Variable			
Variable	**Definition**	**Scale**	**Indicator**
Fraudulent financial statement	Presentation of *annual reports* that do not match the condition of the company (Imtikhani & Sukirman, 2021)	*Dummy*	***Beneish M-Score*** = -4.840 + (0.920 x DSRI) + (0.528 x GMI) + (0.404 x AQI) + (0.892 x SGI) + (0.115 x DEPI) - (0.172 x SGAI) - (0.327 x LVGI) + (4.697 x TATA) (Achmad, Ghozali, Helmina, et al., 2022) **If, M-Score**: > -2.22 = Cheating (Scored 1) < -2.22 = Not Cheating (Given a score of 0)

Source: Processed secondary data, 2025

The following is a breakdown and description of the *Beneish M-Score* model:

Table 3. *Beneish M-Score* model

Elements	Formula	Source
Days Sales Receivables Index (DSRI)	$\frac{Receivables\ (t-1)\ /\ Sales(t)}{Receivables\ (t-1)\ /\ Sales\ (t-1)}$	(Beneish, 1999)
Gross Margin Index (GMI)	$\frac{Gross\ profit\ (t-1)/Sales\ (t-1)}{Gross\ profit\ (t)/Sales\ (t)}$	(Beneish, 1999)
Asset Quality Index (AQI)	$\frac{1-(\frac{Current\ assets\ (t)+Fixed\ assets(t)}{Total\ assets\ (t)})}{1-(\frac{Current\ assets\ (t-1)+Fixed\ assets\ (t-1)}{Total\ assets\ (t-1)})}$	(Beneish, 1999)
Sales Growth Index (SGI)	$\frac{Sales\ (t)}{Sales\ (t-1)}$	(Beneish, 1999)
Depreciation Index (DEPI)	$\frac{\frac{Depreciation\ (t-1)}{Depreciation\ (t-1)+Fixed\ assets\ (t-1)}}{\frac{Depreciation\ (t)}{Depreciation\ t+Fixed\ assets\ (t)}}$	(Beneish, 1999)
Sales General and Administrative Expenses Index (SGAI)	$\frac{\frac{Sales,General\ \&\ Adm.Expense\ (t)}{Sales\ \ (t)}}{\frac{Sales,General\ \&\ Adm.Expense\ (t-1)}{Sales\ (t-1)}}$	(Beneish, 1999)
Leverage Index (LVGI)	$\frac{\frac{Total\ liabilities(t)}{Total\ assets\ (t)}}{\frac{Total\ liabilities\ (t-1)}{Total\ assets(t-1)}}$	(Beneish, 1999)
Total Accruals to Total Assets (TATA)	$\frac{EAT\ (t)-Operating\ cash\ flow(t)}{Total\ assets\ (t)}$	(Beneish, 1999)

Source: Processed secondary data, 2025

Table 4. Operational Definition & Variable Measurement Independent Variable

Independent Variable				
Variable	**Proxy**	**Definition**	**Scale**	**Indicator**
Pressure	Liquidity	The company's ability to meet short-term obligations (Listyawati, 2020)	Ratio	$\frac{Current\ Assets}{Current\ Liabilities}$ (Rahman & Jie, 2024)
	Leverage	The company's ability to fulfill obligations with assets owned (Sasongko, 2019)	Ratio	$\frac{Total\ Liabilities}{Total\ Assets}$ (Sari et al, 2022)
Opportunity	KAP *Big* 4	The size of the public accounting firm including KAP *Big* 4 or *Non Big 4* (Tarjo et al., 2021b)	*Dummy*	Given a score of 1 if the company is audited by the "Big 4"; 0 otherwise (Suryani et al., 2023)
	Proportion of Independent Commissioners	The company's supervisory board that has no affiliation with the company's management (Intia & Azizah, 2021)	Ratio	$\frac{\text{Proportion of independent commissio}}{\text{Total board of commissioners}}$ (Adha & Indrayani, 2024)
Rationalization	Auditor Change	Company auditor changes during the observation year (Normasari & Mayangsari, 2022)	*Dummy*	1 = There is a change of auditor 0 = There is no auditor change (Jati & Setiyani, 2024)
Ability	CEO *Experience*	The length of time the CEO serves in a company (Shiah-Hou, 2021)	Ratio	Σ years serving as CEO (Putri & Suryani, 2024)
	CEO *Education*	The last education the CEO has (Aviantara, 2021)	*Dummy*	1 = CEO with a master's education and above 0 = CEO with education below master's degree (Aprilia et al, 2022)
Arrogance	CEO Photo Frequency	The number of CEO photos in the *annual report* (Khamainy et al, 2022)	Ratio	Total CEO photos displayed in the company's *annual report* (Desi & Diyah, 2024)
Collusion	*Audit Fee*	Fees for audit services provided by the company to the auditor (Lee & Ha, 2021)	Ratio	Log. Audit Fees (Nejad et al, 2024)

Source: Processed secondary data, 2025

Table 5. Operational Definition & Variable Measurement Control Variable

Control Variable			
Variable	**Definition**	**Scale**	**Indicator**
Growth	Sales growth rate (M.P Sari et al, 2020)	Ratio	$\frac{Sales\ (t)-Sales\ (t-1)}{Sales\ (t-1)}$ (Sari et al., 2022)
Profitability	Ability to manage assets to generate income (Cahyani & Annisa, 2021)	Ratio	$\frac{Earning\ after\ tax}{Total\ asset}$ (Dini et al, 2022)

Source: Processed secondary data, 2025

Data Analysis

The research was conducted using panel data binary logistic regression analysis. Logistic regression analysis does not depend on the normal distribution of independent variables (Ghozali & Ratmono, 2019). So that the test will be carried out through the model feasibility test, the overall model test, the coefficient of determination test and then the hypothesis test. Therefore, in this study, the regression equation model can be formulated as follows:

$$FRAUD_{it} = a + \beta_1 LIQ_{it} + \beta_2 LEV_{it} + \beta_3 KAP_{it} + \beta_4 KOM_{it} + \beta_5 AUC_{it} + \beta_6 CPR_{it} + \beta_7 CDN_{it} + \beta_8 FCO_{it} + \beta_9 FEE_{it} + \beta_{10} GRW_{it} + \beta_{11} PRO_{it} + \in_{(it)}$$

Description:

FRAUD= If the company has committed fraud, then it is given a score of 1; otherwise

a= constant ***i*** = *entity* *t* = *period- t* ***β***= Coefficient ***ϵ*** = *Error term*

LIQ = $\frac{\text{Curernt assets}}{\text{Current liabilities}}$ **LEV** = $\frac{\text{Total liabilities}}{\text{Total assets}}$

KAP = If the company is audited by a "*Big* 4" company then it is given a score of 1; otherwise 0

COM = $\frac{\text{Proportion of independent commissioners}}{\text{Total board of commissioners}}$ **FEE** = Log. Audit Fees

AUC = If the company has a change of auditor, it is given a score of 1; otherwise 0

CPR = Σ years in office of a CEO **PRO** = $\frac{\text{Earning after tax}}{\text{Total asset}}$

CDN = If the CEO has a master's education and above, score 1; otherwise 0

FCO = Total number of CEO photos ***GRW*** = $\frac{\text{Sales (t)}-\text{Sales (t}-1)}{\text{Sales (t}-1)}$

4. RESULTS AND DISCUSSION

Descriptive Statistical Test

Descriptive statistical test in research is a description that can provide an overview of variables related to financial report fraud by looking at the maximum, minimum, average and standard deviation values. The test results are presented in the following table.

Table 6. Descriptive Statistical Test Results

Variable Independent	Minimum	Maximum	Mean	Std.Dev	N
Fraudulent financial statement	0.000000	1.000000	0.272727	0.447400	110
Likuditas	0.161639	41.77920	5.180883	9.008754	110
Leverage	0.272702	2.022799	0.688223	0.226387	110
KAP Big 4	0.000000	1.000000	0.490909	0.502205	110
Proportion of Independent Commissioner	0.166667	0.700000	0.476115	0.124903	110
Auditor Change	0.000000	1.000000	0.354545	0.480565	110
CEO *Experiance*	1.000000	7.000000	2.609091	1.472036	110
CEO *Education*	0.000000	1.000000	0.709091	0.456260	110
CEO Photo Frequency	2.000000	13.00000	4.809091	2.621350	110
Audit Fee	8.477121	10.85126	9.368211	0.625492	110
Control Variable	**Minimum**	**Maximum**	**Mean**	**Std.Dev**	**N**
Growth	-1.000000	0.980000	-0.006518	0.317362	110
Profitability	-0.948898	6.420024	0.066562	0.623403	110
Valid N (*listwise*)					**110**

Source: Processed secondary data, 2025

Based on the results of descriptive statistical tests of 110 company data, it is known that the average fraudulent financial statement is relatively low, which is around 0.272727. The same thing is also seen in the frequency of auditor changes around 0.354545 and the use of KAP *Big* 4 of 0.490909. Liquidity between companies varies widely with a standard deviation of 9.008754, while *leverage* is 0.226387 and the proportion of independent commissioners is 0.12490. Most CEOs have low to medium experience, with an average of around 2.609091 and the majority have a higher education background with an average of 0.709091. The number of occurrences of CEO photos in annual reports also varies between companies by 2.621235. *Audit fees* show a high average value of 9.368211 while sales growth and company profitability are at a low level with an average of -0.006158 and 0.066562.

Model Feasibility Test (*Hosmer and Lemesshow's Godnes*)

The model feasibility test is used to determine the feasibility of the research model whether the model used in the study is feasible to study or not. The test results are presented in the table as follows.

Table 7. Model feasibility test results

Prob. Chi-Sq (8)	0.4305
Prob. Chi-Sq(10)	0.0016

Source: Processed secondary data, 2025

The calculation above shows the statistical value of *Hosmer and Lemsshow's Godnes Test* is 0.4305 > 0.05. Indicates that the data used is appropriate and suitable for hypothesis testing and there is no significant difference between the classifications that have been observed.

Determination Coefficient Test (*McFadden R-Squared*)

The coefficient of determination test is carried out to measure the extent to which the ability of a model to explain the variation in the dependent variable. The test results are presented in the table as follows.

Table 8. The test results of the coefficient of determination

McFadden R-squared	0.237671
S.D dependent var	0.447400

Source: Processed secondary data, 2025

Based on the tests that have been carried out, the *McFadden R-squared* value is 0.237671 or 23.76%. This shows that the existence of fraudulent financial statements can be explained by the variables of liquidity, *leverage*, KAP *big* 4, proportion of independent commissioners, auditor change, CEO *experiance*, CEO *education*, CEO photo frequency, *audit fee, growth* and profitability by 23.76% and the remaining 76.24% is explained and influenced by other variables outside the variables contained in this study.

Hypothesis Test

Partial Test

Partial test explains the partial effect of each independent variable on fraudulent financial statement. The partial test results are described in the table as follows.

Table 9. Partial test results

Independent Variable	*Coefficient*	*z-Statistic*	*Prob.*	*Ideal*	*Result*
Constant	-16.30926	-2.757111	0.0058	< 0.05	
Liquidity	-0.039706	-0.890023	0.3735	< 0.05	**H1 Rejected**
Leverage	-2.758201	-1.291346	0.1966	< 0.05	**H2 Rejected**
KAP *Big* 4	-2.446905	-2.669765	0.0076	< 0.05	**H3 Accepted**
Proportion of Independent Commissioners	2.161248	0.959134	0.3375	< 0.05	**H4 Rejected**
Auditor Change	-0.528943	-0.943228	0.3456	< 0.05	**H5 Rejected**
CEO *Experience*	-0.205814	-1.037535	0.2995	< 0.05	**H6 Rejected**
CEO *Education*	-1.625813	-2.771345	0.0056	< 0.05	**H7 Accepted**
CEO Photo Frequency	0.036786	0.359430	0.7193	< 0.05	**H8 Rejected**
Audit Fee	2.033595	3.032662	0.0024	< 0.05	**H9 Accepted**
Variable Control	**Coefficient**	**z-Statistic**	**Prob.**	**Ideal**	**Results**
Growth	1.877065	1.971479	0.0487	< 0.05	**Influential**
Profitability	-6.344728	-1.615595	0.1062	< 0.05	**Not Affected**

Source: Processed secondary data, 2025

Based on the results of the logistic regression test in the table above, the logistic regression equation can be stated as follows:

$$FRAUD = -16.30926 - 0.39706 - 2.758201 - 2.446905 + 2.161248 - 0.528943 - 0.205814 - 1.625813 + 0.036786 + 2.033595 + 1.877065 - 6.344728 + \in_{it}$$

Simultaneous Test

Simultaneous test is conducted to determine the simultaneous influence of all independent variables on the dependent variable seen from the probability value (LR *statistic).* The following are the results of the simultaneous test.

Table 10. Simultaneous test results

LR statistic	30.63811
Prob(LR statistic)	0.001257

Source: Processed secondary data, 2025

Based on the research results, it shows that the *prob(LR statistic)* value is 0.001257 < 0.05, where the results show that it is not more than 0.05, which means that there is a simultaneous influence between the independent variables on the dependent variable.

DISCUSSION

Effect of Liquidity Ratio on Fraudulent financial statement

The effect of pressure variables as measured by liquidity has a significance value of 0.3735 > 0.05, which means that liquidity has no effect on fraudulent financial statement so that **H1 is rejected.** Liquidity ratio is not a trigger factor whether the company commits fraud or not (Salim & Riady, 2021). Based on company data that was tested at PT Asuransi Tugu Pratama Indonesia Tbk in 2020, it has a high liquidity level of 8.81 but is not indicated to have committed fraudulent financial statement. Meanwhile, PT Jasa Marga Persero Tbk in 2020 showed a low liquidity level of 0.72 but no indication of fraudulent financial statement. Based on the test results, it shows that even though the company has a good ability to settle short-term obligations, it does not make the company free from fraudulent financial statements (Firdausya & Parasetya, 2021). The results of the study are in line with the research of Hidayanto & Munandar, (2022); Salim & Riady, (2021) that liquidity has no effect on fraudulent financial statement.

The Effect of *Leverage* Ratio on Fraudulent financial statement

The effect of the pressure variable as measured by *leverage* shows a significance value of 0.1966 > 0.05, explaining that *leverage* has no effect on fraudulent financial statement so that, **H2 is rejected**. Facts in the field show that the size of the company's *leverage* level does not always determine whether the company will commit fraud in the financial statements or not (Widyatama & Setiawati, 2021). Based on company data that was tested at PT Asuransi Tugu Pratama Indonesia Tbk in 2022, it has a low leverage level of 0.57 but is indicated to have committed fraudulent financial statement. Meanwhile, PT Indofarma Persero Tbk in 2023 has a *leverage* level of 2.02 but is indicated to have committed fraudulent financial statement. Therefore, it can be concluded that the level of leverage is not a factor that determines fraudulent financial statement (Wicaksana & Suryandari, 2019) . The results of the study are in line with previous literature conducted by Ufiana & Triyanto, (2022); Sabatian & Hutabarat, (2020a); Dini et al, (2022) showing that the leverage ratio does not affect fraudulent financial statement.

The Effect of KAP *Big* 4 on Fraudulent financial statement

The effect of opportunity as measured by KAP *big* 4 obtained a significance value of 0.0076 <0.05, which means that KAP *big* 4 shows an influence on fraudulent financial statements so that, **H3 is accepted**. This is because public accounting firms that are members of the *big* 4 are considered to have superior ability to detect and disclose errors in financial statements (Loen, 2023). And, auditors who are in the *big* 4 KAP have higher independence during the audit process in the company (Tarjo et al, 2021). The use of auditors contained in the *big* 4 KAP will also have an impact on audit results that are more reliable than audit results from KAP that are not *big* 4 (Fathmaningrum & Anggarani, 2021) . Thus, the opportunity for fraud in the company will be reduced. The results of the study are in line with previous research conducted by Ebaid, (2023); Loen, (2023); Fathmaningrum & Anggarani, (2021); Tantri & Chariri, (2023) explaining that the determination of a public accounting firm will have a negative effect on the occurrence of fraudulent financial statements.

The Effect of the Proportion of Independent Commissioners on Fraudulent financial statement

The effect of the opportunity variable as measured by the proportion of independent commissioners has a significance of 0.3375 > 0.05, explaining that the proportion of independent commissioners has no effect on fraudulent financial statements so that, **H4 is rejected**. The proportion of independent commissioners has been determined in *good corporate governance*, which is at least 30% of the total board of commissioners in the company (Nadia et al, 2023). So that the presence of independent commissioners is only to meet company standards, but in reality the presence of independent commissioners does not guarantee that the company will avoid fraudulent financial statement (Aprilia et al, 2022). The results of the study are in line with previous literature Putriana et al, (2024); Aprilia et al, (2022b); Sabatian & Hutabarat, (2020b); Yustikasari & Sari, (2024) shows that the proportion of independent commissioners has no effect on fraudulent financial statement.

The Effect of Auditor Change on Fraudulent financial statement

The effect of the rationalization variable as measured by auditor change shows a significance of 0.3456 > 0.05 which explains that auditor change has no effect on fraudulent financial statement so that, **H5 is rejected**. Although the change of auditors is often interpreted as a sign of potential fraud concealment (Sasongko & Wijayantika, 2019), empirical research shows that the change of auditors is not related to the existence of fraudulent financial statement. There are various things that can cause auditor change including the expiration of the

auditor's work contract (Fathmaningrum & Anggarani, 2021); and the obligation to change auditors that have been stipulated in the regulations (Yulianti et al, 2024); (Khamainy et al, 2022). Based on Financial Services Authority Regulation Number 13 of 2017 concerning the limit of providing services for auditing financial statements by public accountants for a maximum of three consecutive financial years. Therefore, the change of auditors in the company is only to meet the company's administrative standards, but does not necessarily have a direct impact on fraudulent financial reporting practices. The results of the study are reinforced by previous research Naldo, (2023); Achmad et al, (2022) explaining that the presence or absence of auditor changes in the company does not show any influence on fraudulent financial statement.

The Effect of CEO *Experience* on Fraudulent financial statement

The effect of the capability variable as measured by CEO *experiance* shows a significance value of 0.2995 > 0.05, which means that CEO *experiance* has no effect on fraudulent financial statement so that, **H6 is rejected**. Not all CEOs have dominant power in the company, in corporate governance practices all strategic decisions and financial reports require approval by the board of directors and audit committee (Silaban & Zainal, 2021). This is done as a *check and balance* and limits the CEO's space no matter the length of a CEO's tenure (Yami & Hughes, 2022). Therefore, CEO tenure is not the main determining factor in fraudulent financial statement, but rather a complex combination of supervisory systems, management ethics, and effective corporate governance (Masruroh & Carolina, 2022). The results of the study support previous literature studies conducted by Putri & Suryani, (2024); Jati & Setiyani, (2024); Suherman et al, (2021) explaining that the experience of the CEO will not make him commit fraudulent financial statement.

The Effect of CEO *Education* on Fraudulent financial statement

The effect of the capability variable is also measured by CEO *education*, has a significance value of 0.0056 < 0.05 which explains that CEO *education* affects fraudulent financial statement so that, **H7 is accepted**. CEOs with higher education have better knowledge and skills in leading and making decisions for the company. With this education, the CEO can solve company problems without having to commit fraudulent financial statement (Y. Putri & Suryani, 2024). In addition, higher education can also help CEOs produce better and more transparent financial reports (Ge & Xiong, 2023). And with higher education, CEOs can manage companies more responsibly, so the chances of fraudulent financial statements are lower (Wicaksana & Suryandari, 2019). Therefore, high education in the CEO can reduce the chance of fraudulent financial statements. The results of the study support research that has been conducted by Haeronnisa & Isnawati, (2024);

Probohudono et al, (2022) showing that with higher education owned by the CEO will have a negative effect on fraudulent financial statements.

The Effect of Frequency Photo Of CEO on Fraudulent financial statement

The effect of the arrogance variable as measured by the frequency of CEO photos has a significance value of 0.7193 > 0.50, which means that the frequency of CEO photos has no effect on fraudulent financial statement, so **H8 is rejected.** The frequency of CEO photos appearing in *annual reports* is often considered a form of superiority or imaging of a CEO to the public (Achmad, Ghozali, & Pamungkas, 2022a). However, based on empirical results, there is no relationship between the frequency of CEO photos and fraudulent financial statement. This is because the appearance of the CEO's photo in the *annual report* is only a formality and is used as a means for the CEO to introduce himself to the public (Zahara & Ratnawati, 2024); and as a form of accountability to convey to the public regarding company performance (Achmad et al, 2022). Thus, although the frequency of CEO photos can explain the characteristics of a CEO, it is not a determining factor in explaining fraud in financial statements. The results of this study are in line with research conducted by Achmad et al, (2022); Silaban & Zainal, (2021); Nurbaiti & Triani, (2023) stating that the frequency of CEO photos does not affect the occurrence of fraudulent financial statements.

The Effect of *Audit Fee* on Fraudulent financial statement

The effect of the collusion variable as measured by the *audit fee* has a significance value of 0.0024 < 0.05, which means that *the audit fee* affects the occurrence of fraudulent financial statements, thus, **H9 is accepted**. These results illustrate that companies that tend to commit fraud are willing to provide higher audit fees so that auditors do not detect fraud in the financial statements (Nejad et al, 2024). *The client* will cooperate with the auditor so that the auditor is reluctant to make findings of fraudulent financial statement (Aviantara, 2021). With a high *audit fee*, the auditor will benefit and the company can continue to commit fraudulent financial statement without anyone knowing. This means that the higher the *audit fee*, the higher the risk of fraudulent financial statements (Nejad et al, 2024). The results of the study are in line with previous research conducted by Sihombing & Panggulu, (2022); Nejad et al, (2024).

5. CONCLUSION

Based on the results and discussion of the research, it shows that liquidity, *leverage*, KAP *big* 4, proportion of independent commissioners, auditor change, CEO *experiance*, CEO *education*, CEO photo frequency, *audit fee, growth* and

profitability simultaneously affect fraudulent financial statement so that it can be said that all independent variables used are appropriate in explaining the dependent variable. While partially KAP *big* 4 has a negative effect, CEO *education* has a negative effect and *audit fees have* a positive effect on fraudulent financial statement at a significance level of 0.05 while liquidity, *leverage*, auditor change, proportion of independent commissioners, CEO *experiance*, Frequency Photo Of CEO have no effect on fraudulent financial statement.

This study has limitations including, (1) The *R-squared* value obtained a figure of 23.76% so that the model was only able to explain a small part of the fraudulent financial statement, while the remaining 76.24% was influenced by other factors outside this study; (2) Only three indicators were obtained that showed an effect on fraudulent financial statement, so that it was not able to fully describe the factors that influenced fraudulent financial statement with several control variables; (3) The research was only conducted on BUMN companies listed on the Indonesia Stock Exchange, so that the results provided were not able to fully reflect the opportunities for fraudulent financial statement in other corporate sectors. Future research is expected to (1) Develop other indicators that are more appropriate in measuring each variable in future studies so that the model can explain fraudulent financial statement more comprehensively; (2) Future research is expected to expand the research object to *non*-BUMN companies or other sectors such as mining and banking in order to obtain diverse findings and provide a broader picture of fraudulent financial statement; (3) Use other approaches in detecting fraudulent financial statement, such as *Z-Score* and *Discretionary Accruals (*DACC) to obtain more comprehensive results. Nevertheless, this study contributes to the development of better policies and practices in reducing cases of fraudulent financial statements in *publicly* listed government agencies.

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