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AN ANALYSIS OF THE EFFECT OF FRAUD TRIANGLE ON FINANCIAL STATEMENT FRAUD WITH INTELLECTUAL CAPITAL AS MODERATION

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Abstract. This study aims to determine the effect of triangle fraud on fraudulent financial statements with intellectual capital as moderation. Triangle fraud includes pressure proxied by financial target, opportunity proxied by nature of industry, and rationalization proxied by bonus mechanism. This study uses F-Score to measure the potential for fraudulent financial statements and VAIC to measure intellectual capital. The research sample consists of 21 SOEs listed on IDX in 2018-2022. The research uses quantitative methods with moderation regression analysis and Eviews 12 as a tool. The results showed that financial target has positive effect and nature of industry has negative effect in detecting fraudulent financial statements. The rationalization is not proven to have significant effect in detecting fraudulent financial statements. Intellectual capital is proven to weaken the effect of pressure and strengthen the effect of opportunity on fraudulent financial statements. However, intellectual capital is not proven to moderate the effect of rationalization on fraudulent financial statements. This study supports the agency theory. The study recommends companies to strengthen their intellectual capital and internal controls to prevent fraudulent financial statements. Investors and creditors also need to consider profitability, changes in receivables, and intellectual capital in making their investment and lending decisions to companies.

Keywords: Financial Statement Fraud, Pressure, Opportunity, Rationalization, Intellectual Capital

I. INTRODUCTION

Financial reports are a form of responsibility from management related to finance, namely the use of company resources and aim to provide useful information for report users about the entity's financial position, financial performance and cash flow for economic decision making (IAI, 2015: 3). Therefore, financial statements must certainly be presented reliably, which is in line with the validity of current guidelines, free from errors, and verifiable. However, in practice there are still publications of financial statements that contain misleading information as an indication of fraud which can harm many parties. This is known as financial statement fraud, which is a scheme in which the perpetrator intentionally causes material misstatement in the company's financial statements (ACFE, 2022). When referring to the ACFE 2022 report, financial statement fraud is the least common type of fraud, which is only 9% of other fraud schemes, namely asset misuse as much as 86% and corruption as much as 50%. Although financial statement fraud is rare, it is able to provide the highest median loss to the company compared to other fraud schemes, which is US $ 593 thousand.

Based on the ACFE 2022 report, fraud cases have earned an average loss per case of US $ 1,783 million, which has increased when compared to the average loss per case in the ACFE 2020 report which only amounted to US $ 1,509 million. Indonesia itself was once ranked as the country with the highest fraud cases in Asia Pacific and ranked 8th out of 125 countries in the world with a total of 36 cases that occurred during the period January 2018 to September 2019 (ACFE, 2020). One of the parties most harmed by fraud cases in Indonesia is the government with a percentage of 48.5% and BUMN (State-Owned Company) with a percentage of 31.8% (ACFE Indonesia, 2019).

A number of cases of financial statement fraud took place in several state-owned companies, including the case of window dressing by PT Garuda Indonesia (Persero) Tbk in 2018. This was done through manipulation of financial statements by recognizing receivables amounting to US$239.94 million as revenue at once, thus successfully recording a fictitious net profit of US$809 thousand in the 2018 financial statements. From this case, PT Garuda Indonesia (Persero) Tbk was proven to have violated OJK Regulation No. 29 / POJK.04 / 2016 concerning Annual Reports of Issuers or Public Companies (Sari, 2019). Another case also occurred at PT Asuransi Jiwasraya, which carried out window dressing on the company's profits since 2006. This was revealed because PT Asuransi Jiwasraya experienced liquidity pressure so that equity became negative, amounting to IDR 23.92 trillion in September 2019 (Makki, 2020). The Jiwasraya case was later proven to have violated Law No. 40 of 2014 concerning insurance and OJK Regulation No. 27 of 2018 concerning the financial health of insurance and reinsurance companies (Sidik, 2020). The latest case of fraudulent financial statements was carried out by PT Indofarma (Persero) Tbk in early 2024 in the form of recognition of online loan debt as payment of trade receivables from 2020 to the first semester of 2023 which caused state losses of IDR 371.33 billion (Dwi, 2024). SOE Minister Erick Tohir at the Indonesia Coffee Festival (ICF) 2023 said that the problem of SOE fraud, which has been going on repeatedly, is caused by irresponsible individuals, aka corruption, and the lack of knowledge of human resources of SOE companies (Binekasri, 2023).

Various models that explain the factors that trigger fraud have been developed to detect existing fraud practices through the analysis of company financial statements. The fraud model was first developed by Cressey (1953), namely the fraud triangle which includes pressure, opportunity, and rationalization. The triangle fraud model is in line with the agency theory proposed by Jensen & Meckling (1976) which includes conflicts of interest differences and information asymmetry that can trigger fraud. Conflicts of interest differences can trigger pressure and rationalization factors. Meanwhile, the existence of information asymmetry can trigger the opportunity factor which then leads to fraud. Therefore, researchers choose the triangle fraud model in detecting the existence of potential financial statement fraud. The pressure factor is proxied by financial targets, opportunity is proxied by the nature of the industry, and rationalization is proxied by the bonus mechanism. The selection of the triangle fraud model proxy is taken based on a relevant literature review related to the detection of potential financial statement fraud and based on the earnings component which is often used as a measurement of the company's productivity efficiency by the principal.

Some previous research results show inconsistent results. Research by Anisykurlillah et al. (2023), Sekarwulan & Umar (2021), Suharsana & Prisiena (2019) say that pressure with financial target proxies has a significant effect on financial statement fraud. These results are not in line with the research of Widawati et al. (2022), Bhaktiar & Setyorini (2021), Lestari & Sudarno (2019),

Ahmadiana & Novita (2019) who say pressure with financial target proxies has no significant effect on financial statement fraud. Research by Anisykurlillah et al. (2023), Bhaktiar & Setyorini (2021), Ahmadiana & Novita (2019) say that opportunity with the proxy of nature of industry has a significant effect on financial statement fraud. It also contradicts the research statement of Lestari & Sudarno (2019) which states that opportunity with the proxy of nature of industry has no significant effect on fraudulent financial statements. Mariati & Indrayani's research (2020) states that the bonus mechanism as a proxy for rationalization has a significant effect on fraudulent financial statements. This statement contradicts the research of Adha & Indryani (2024), Purba et al. (2022) which says rationalization with the proxy bonus mechanism has no significant effect on financial statement fraud.

One of the fraud prevention measures is through focusing attention on the development of intellectual capital (Stanusch, 2013). The three components of intellectual capital are human capital, structure capital, and relational capital. Intellectual capital is interpreted as one of the important components in the company to improve the credibility of financial statements and company performance. Therefore, the measurement and disclosure of intellectual capital in a company is certainly able to overcome conflicts of interest differences that can trigger fraud.

Based on the results of research by Salehi et al. (2023), there is a negative correlation between intellectual capital and financial statement fraud and money laundering. This statement is reinforced by the research of Musaif & Ghozali (2022), Lotfi et al. (2022) which states that intellectual capital has a negative effect on financial statement fraud. This is inversely proportional to the research of Claudia & Dewi (2023) which says that intellectual capital has no significant effect on financial statement fraud.

In previous research related to the triangle fraud model in detecting potential financial statement fraud, there are still inconsistent results, so it is still worth re-studying. This study aims to determine the effect of the triangle fraud model consisting of pressure with the proxy financial target, opportunity with the proxy nature of industry, and rationalization with the proxy bonus mechanism on the detection of potential financial statement fraud. This research is a development of Mariati & Indrayani's (2020) research which applies the triangle fraud model in detecting financial statement fraud. This research is unique compared to previous research, namely adding intellectual capital as moderation to the fraud triangle on financial statement fraud. The selection of intellectual capital as moderation because it aims to find out more about whether the existence of intellectual capital can prevent the influence of the basic triggering factors for someone to commit fraud as outlined in the triangle fraud model on the potential for fraudulent financial statements, where intellectual capital in previous studies was only used to determine its effect on preventing fraudulent financial statements only. In the implementation of this study, the measurement of intellectual capital uses the calculation of the Value Added Intellectual Coefficient (VAIC). This study also uses the F-Score model as a measure of the dependent variable, namely financial statement fraud. The object of research used is state-owned companies listed on the Indonesia Stock Exchange (IDX) for the period 2018-2022.

This research can be utilized by companies in understanding the importance of early detection of potential financial statement fraud and strengthening the company's intellectual capital as a preventive measure against financial statement fraud. This research can also be a consideration for the ministry of SOEs, investors, and creditors to be careful in analyzing

financial statements and paying attention to intellectual capital before making economic decisions. This research is then able to enrich the knowledge of the public and strategic experts regarding the various factors that influence financial statement fraud and the role of intellectual capital in preventing symptoms that trigger financial statement fraud by comparing existing theories and field facts.

II. LITERATURE REVIEW

A. Agency Theory

Agency theory was proposed by Jensen & Meckling (1976) which discusses the relationship between company owners as principals and management as agents which should reflect efficient information processing and risk-bearing costs. Principals engage agents in work that prioritizes their interests, but this agency theory reveals that there are differences in interests between the principal and the agent. The difference in interests between the principal and the agent then gave birth to three basic assumptions that underlie agency theory, namely human assumptions, organizational assumptions, and information assumptions (Eisenhardt, 1989). Human assumptions are closely related to self-interest, bounded rationality, and risk aversion. Organizational assumptions are related to conflicts of interest, efficiency as an indicator of measuring company productivity, and information asymmetry. Information assumptions are related to information that is considered a tradable commodity.

One of the agent's duties which is a demand and a form of responsibility to the principal is the delegation of corporate decision-making authority. This authority makes the agent get access to information related to the company that is wider and faster than the principal (Nurrahmasari, 2020). This has an impact on information misalignment or commonly called information asymmetry (Spence, 1973). The existence of information asymmetry can cause moral hazard and adverse selection which can harm the principal. The difference in interests and the existence of information asymmetry are then two root problems that lead to potential fraud that is difficult to detect.

B. Triangle Fraud Theory

Triangle fraud was published by Cressey (1953) and is the first theory proposed regarding 3 (three) basic triggering factors for fraud in a company, namely pressure, opportunity, and rationalization. The first factor is pressure, which is an incentive that can motivate someone to commit fraud (Cressey, 1953). Pressure is caused by personal problems, the work environment, and the expectations of external parties.

An emerging pressure can create a motive for crime if a person also feels that they have the opportunity to act fraudulently without being caught. This opportunity is the second element of the factor that triggers fraud. According to Cressey (cited by Sujeewa et al. 2018, p. 53), there are two components of opportunity that can lead to breach of trust, including general information and technical skills.

In general, someone who has committed fraud will justify it rationally or make internal justifications. This action is then known as rationalization, which is an important component in the motivation of crime that is needed by the perpetrator to make this unlawful act into self-understandable behavior (Cressey, 1953). After that, the perpetrator will then look for ways to maintain his position as a party that can be trusted by the company.

C. Financial Target

Financial target is one of the components of the pressure factor based on SAS no. 99. Financial targets are financial targets that have been determined by agents and principals which need to be realized by the company in a certain period (Zelin, 2018). This situation can certainly create pressure for agents in carrying out their performance and trigger an urge to act fraudulently by manipulating financial reports so that it can appear as if the company has succeeded in achieving predetermined targets.

D. Nature of Industry

Nature of industry is one of the components of the opportunity factor based on SAS no. 99. Nature of industry is an ideal condition that a company has within the scope of the industry. One of the various forms is the condition of trade receivables and inventory of a company which has a different response from the management of each company (Zelin, 2018). Accounts receivable and inventory are types of accounts that use estimated estimates so that they can be utilized by agents in manipulating balances without raising suspicion.

E. Bonus Mechanism

Bonus mechanism is used in this study in measuring the rationalization factor. Bonus mechanism is a calculation component related to the total bonus given by the principal to the agent as a form of performance appreciation, where the bonus is given when the company makes a profit (Suryatiningsih & Siregar, 2008). According to Utomo (2011), the bonus mechanism encourages agents to control the company's profitability by performing earning management to optimize the acquisition of performance compensation.

F. Financial Statement Fraud

Fraudulent financial statement is a scheme when an employee commits a fraudulent act intentionally in the form of material misstatement of financial statements to fulfill their own interests (ACFE, 2022). Financial statement fraud consists of timing differences, fictitious / understated revenue, concealed / overstated liabilities and expenses, and importer disclosure which results in inadequate financial statement disclosure (ACFE, 2016).

G. Intellectual Capital

Intellectual capital is an important component in measuring the company's human resources (Kusuma, 2017). According to Stewart (cited by Cahyati, 2017, p. 2), intellectual capital is based on experience, intellectual mastery, information, and knowledge utilized by the

company to create prosperous conditions. The better the percentage of intellectual capital in a company, it can certainly make a positive contribution to the company in the form of added value that makes it superior and different from other companies (Santosa & Setiawan, 2007).

Intellectual capital is classified as an intangible asset measurement that includes three components, namely human capital, structure capital, and relational capital. Human capital is a measurement of the company's value based on the quality of its human resources. According to Brinker (cited by Kusuma, 2017, p. 51), human capital consists of the recruitment process, experience, competence, potential and individual personality, training and mentoring programs, and the provision of certification for employees. Structure capital is the company's capability to fulfill the procedures and structure of business operations as a form of support to employees in order to provide optimal business and intellectual performance (Kusuma, 2017). According to Brooking (1996) adopted by Partanen (1998) in Sawarjuwono & Kadir (2003), structure capital is divided into two components, namely: 1) Infrastructure capital such as corporate culture, management processes, management philosophy, corporate methods, financial relations, information systems, and networking systems; 2) Intellectual property such as copyrights and brands. Relational capital is the company's capability to build positive and sustainable interactions with the surrounding environment, namely internal and external parties of the company to create prosperity through increasing human capital and structural capital (Marti & Cabrita cited by Loureiro & Teixeira, 2012, p. 6). Relational capital is related to the company's image because it contains various elements such as the level of customer satisfaction and loyalty, the ability to build sustainable interactions with various parties, and the ability to negotiate and build business cooperation agreement contracts.

Research Framework

Agency theory is based on three basic assumptions, namely human assumptions, organizational assumptions, and information assumptions. These three basic assumptions are the beginning of triggering financial statement fraud in a person. Where this is in line with the triangle fraud model which is a detection tool for potential financial statement fraud in the company.

According to Jensen & Meckling (cited by Salehi et al. 2023, p. 230), one way to overcome the conflict of interest differences between principals and agents is to use the measurement of the company's performance system. The company's performance system in question is a function of the use of intangible assets and tangible assets of the company. Disclosure of tangible asset performance system measurements is very common in company annual reports. In contrast to the measurement of the company's intangible assets which are still very minimal in the disclosure of the company's annual report.

One component of intangible asset calculation is intellectual capital which includes human capital, structure capital, and relational capital. Intellectual capital is an intellectual-based company property that aims to allocate human resources optimally so as to increase performance efficiency and minimize company costs (Salehi et al. 2023). Therefore, when the

company discloses intellectual capital in its annual report, the company is certainly able to get better assessment aspects from external parties and increase the credibility of financial statements.

Based on the explanation above, the research framework is described as follows:

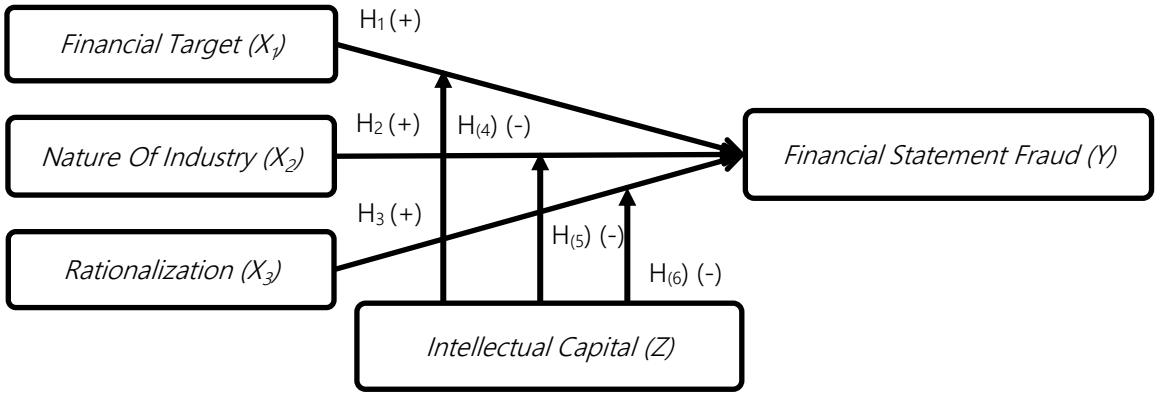

Figure 1. Research Framework

Hypothesis Development

The Effect of Financial Target on Financial Statement Fraud

The existence of financial targets can lead to self-interest in the agent and create a conflict of interest. The principal is interested in getting high returns on the investment he has provided, while the agent focuses on compensation for operational implementation and achievement of the company's performance performance that has been produced (Nurrahmasari, 2020). The achievement of company performance is considered good based on the measurement of profit achievement, which is an incentive for the agent to launch fraudulent financial statements (Sari & Nugroho, 2020). This is very potential because by achieving good company performance through high profits, the company will certainly attract the attention of investors to invest in the company. This statement is then reinforced by the research of Anisykurlillah et al. (2023), Sekarwulan & Umur (2021), Suharsana & Prisiena (2019) who say financial targets have a significant positive effect on financial statement fraud.

H1: Pressure with the proxy Financial Target has a significant positive effect on Financial Statement Fraud.

The Effect of Nature of Industry on Financial Statement Fraud

The nature of the industry is reflected in company accounts that use estimates, one of which is bad debts. This creates information asymmetry that can be utilized by agents to commit fraudulent financial statements that are difficult to detect by utilizing subjective assessments of these accounts. The higher the percentage level of the receivables change ratio, it reflects the limited amount of cash in a company to carry out operational activities, so that the greater the possibility of the company manipulating the estimated account balance in order to cover

changes in unreasonable accounts receivable and avoid risk (risk averse) for the decline in the company's reputation due to declining profits seen from unstable income. This is supported by research by Sekarwulan & Umur (2021), Suharsana & Prisiena (2019) which states that the nature of industry has a significant positive effect on financial statement fraud.

H2: Opportunity with the Nature of Industry proxy has a significant positive effect on Financial Statement Fraud.

The Effect of Rationalization on Financial Statement Fraud

Referring to agency theory, each individual is often more selfish, which causes the existence of fraudulent financial statements to be rationalized by agents without thinking (bounded-rationality) in order to provide optimal performance to the principal in the hope that there will be an award in the form of a bonus as a form of appreciation in managing the company (Irpan, 2011). Therefore, the existence of a bonus mechanism can be used as a means of controlling and manipulating profit projections according to the wishes of the agent in order to achieve the expected bonus. This statement is reinforced by research (Mariati & Indrayani, 2020) which states that the bonus mechanism has a significant effect on financial statement fraud.

H3: Rationalization with proxy Bonus Mechanism has a significant positive effect on Financial Statement Fraud.

Intellectual Capital as a Moderating Variable between Financial Target and Financial Statement Fraud

Research by Darabi et al. (2012) explains that intellectual capital has a good impact on earning quality, so that it can play a positive role in financial reporting activities. This applies if intellectual capital contains empowerment of employees who are competent in their fields, good management processes and company systems, as well as positive and sustainable relationships with external and internal parties of the company. Optimal collaboration of these intellectual capital components can then help companies prevent the emergence of pressure factors that can trigger financial statement fraud.

H4: Intellectual Capital can significantly weaken the effect of Pressure with the Financial Target proxy on Financial Statement Fraud.

Intellectual Capital as a Moderating Variable between Nature of Industry and Financial Statement Fraud

Intellectual capital is substantially related to the company's internal governance system that can prevent fraud. In this case, internal corporate governance is included in structure capital, which if accompanied by good human capital in the form of hiring competent employees, and supported by relational capital in the form of good relations with external parties such as auditors and shareholders, it can improve effective corporate governance mechanisms (Lotfi et al. 2022). Therefore, the better the intellectual capital value of a company, it will result in an efficient corporate governance and internal control mechanism so as to minimize the

opportunity due to the existence of information asymmetry that triggers the potential for fraudulent financial statements.

H5: Intellectual Capital can significantly weaken the effect of Opportunity with the Nature of Industry proxy on Financial Statement Fraud.

Intellectual Capital as a Moderating Variable between Rationalization and Financial Statement Fraud

Intellectual capital includes relational capital which can be a solution in preventing rationalization factors that can trigger financial statement fraud. This is because relational capital is a form of strong and sustainable ethical relationship between management as an agent and external parties such as shareholders and internal parties such as employees, so that it can make management aware of the importance of a code of ethics, morals, and awareness of responsibility to all parties concerned.

H6: Intellectual Capital can significantly weaken the effect of Rationalization with the Bonus Mechanism proxy on Financial Statement Fraud.

III. RESEARCH METHODOLOGY

This research uses a quantitative approach. The population of this study is state-owned companies listed on the IDX for the period 2018-2022. The research sample was selected through purposive sampling technique. Based on the predetermined criteria, the research sample was obtained as many as 21 BUMN companies listed on the IDX for the 2018-2022 period. This study utilizes secondary data sources, namely the annual reports of BUMN companies for the 2018-2022 period. The data collection technique uses documentation through the collection of research data by visiting official websites such as www.idx.co.id and the official website of each BUMN company. This study uses moderation regression analysis with the help of Eviews 12. The following is a summary of the measurement of research variables:

Table 1. Variable Operations and Measurements

Variables	Measurement
Financial Statement Fraud (Y)	F-Score = Accrual Quality + Financial Performances $\boldsymbol{Accrual\ Quality} = \frac{\Delta WC + \Delta NCO + \Delta FIN}{Average\ Total\ Assets}$ $\boldsymbol{Working\ Capital} = Current\ Assets - Current\ Liabilities$ $\boldsymbol{Non\ Current\ Operating} = (Total\ Assets - Current\ Assets - Investment\ \&\ Advances) - (Total\ Liabilities - Current\ Liabilities - Long\ Term\ Debts)$ $\boldsymbol{Financial\ Accrual} = Total\ Investment - Total\ Liabilities$ $\boldsymbol{Average\ Total\ Assets} = \frac{(Beginning\ Total\ Assets + End\ Total\ Assets)}{2}$ $\boldsymbol{Financial\ Performances} = Change\ in\ Receivables + Change\ in\ Inventories$

	$+ Change\ in\ Cash\ Sale + Change\ in\ Earnings$ $\boldsymbol{Change\ in\ Receivables} = \frac{Receivable_{(t)} - Receivable_{(t-1)}}{Average\ Total\ Assets}$ $\boldsymbol{Change\ in\ Inventories} = \frac{Inventory_{(t)} - Inventory_{(t-1)}}{Average\ Total\ Assets}$ $\boldsymbol{Change\ in\ Cash\ Sale} = \frac{Sales_{(t)} - Sales_{(t-1)}}{Sales_{(t)}} - \frac{Receivable_{(t)} - Receivable_{(t-1)}}{Receivable_{(t)}}$ $\boldsymbol{Change\ in\ Earnings} = \frac{Earnings_{(t)}}{Average\ Total\ Assets_{(t)}} - \frac{Earnings_{(t-1)}}{Average\ Total\ Assets_{(t-1)}}$ Ratio Scale (Dechow *et al.,* 2011)
Financial Target (X1)	$\boldsymbol{Return\ On\ Asset\ (ROA)} = \frac{Net\ Income}{Total\ Assets}$ Ratio Scale (Skousen *et al.,* 2009)
Nature Of Industry (X2)	$\boldsymbol{Receivable} = \frac{Receivable_{(t)}}{Sales_{(t)}} - \frac{Receivable_{(t-1)}}{Sales_{(t-1)}}$ Ratio Scale (Skousen *et al.,* 2009)
Bonus Mechanism (X3)	$\boldsymbol{Net\ Income\ Trend\ Index} = \frac{Net\ Income_{(t)}}{Net\ Income_{(t-1)}}$ Ratio Scale (Suryatiningsih & Siregar, 2008)
Intellectual Capital (Z)	$\boldsymbol{Value\ Added\ Intellectual\ Capital\ (VAIC)} = HCE + SCE + CEE$ $\boldsymbol{Value\ Added\ (VA)} = Out - In$ $\boldsymbol{Human\ Capital\ Efficieny\ (HCE)} = \frac{Value\ Added}{Human\ Capital}$ $\boldsymbol{Human\ Capital\ (HC)} = Employee\ Expenses$ $\boldsymbol{Structure\ Capital\ Efficieny\ (SCE)} = \frac{Structure\ Capital}{Value\ Added}$ $\boldsymbol{Structure\ Capital\ (SC)} = VA - HC$ $\boldsymbol{Capital\ Employed\ Efficieny\ (CEE)} = \frac{Value\ Added}{Capital\ Employed\ (Total\ Equity)}$ Ratio Scale (Pulic, 1998)

Source: Data processed (2024)

IV. RESULTS AND DISCUSSION

A. Descriptive Statistical Analysis

Descriptive statistical analysis aims to describe and describe individual research variables. The following are the results of descriptive statistical analysis:

Table 2. Descriptive Statistic

	Y	X1	X2	X3	Z

Mean	0,0604	0,0218	0,0260	-10,916	2,4943
Median	0,0268	0,0182	-0,0020	1,0227	2,4580
Max	1,9775	0,2817	1,9356	14,192	10,997
Min	-2,2415	-0,4992	-1,0394	-1251,5	-10,223
Std.Dev.	0,5536	0,0846	0,3219	122,28	2,5668
n	105	105	105	105	105

Source: Data processed by Eviews 12, 2024

Financial Statement Fraud (Y)

The following is a classification of the category of potential fraud in the financial statements of BUMN companies for the 2018-2022 period based on the F-Score criteria according to Dechow *et.al* (2011):

Table 3. Frequency Distribution of Financial Statement Fraud

Criteria	Category	Frequency	Percentage
F-Score > 2.45	High Risk	0	0,00%
F-Score > 1.85	Substantial Risk	2	1,90%
F-Score > 1	Above Normal Risk	3	2,86%
F-Score < 1	Low/Normal Risk	100	95,24%

Source: Data processed by Ms. Excel, 2024

Financial Target (X1)

The following is a classification of the profitability category of BUMN companies for the 2018-2022 period based on ROA criteria according to Lukviarman (2006: 36):

Table 4. Frequency Distribution of Financial Target

Criteria	Category	Frequency	Percentage
ROA≥ 5.98%	Good Profitability	26	24,76%
ROA< 5.98%	Profitability Below Industry Minimum Standard	79	75,24%

Source: Data processed by Ms. Excel, 2024

Nature of Industry (X2)

The following is a classification of the nature of industry category of BUMN companies for the 2018-2022 period based on the interval frequency distribution according to Nurrahmasari (2020):

Table 5. Frequency Distribution of Nature of Industry

Interval	Category	Frequency	Percentage
(-1,0394) - (-0,0477)	Low	31	29,5%
(-0,0477) - 0,9439	Medium	73	69,5%
0,9439 - 1,9356	High	1	1%

Source: Data processed by Ms. Excel, 2024

Rationalization (X3)

The following is a classification of bonus mechanism categories for BUMN companies for the 2018-2022 period based on the net profit trend index criteria according to Suryatiningsih & Siregar (2008):

Table 6. Frequency Distribution of Rationalization

Criteria	Category	Frequency	Percentage
$ITRENDLB < 0\%$	Low	10	9,52%
$0\% \leq ITRENDLB \leq 20\%$	Medium	9	8,57%
$21\% \leq ITRENDLB \leq 105\%$	High	86	81,91%

Source: Data processed by Ms. Excel, 2024

Intellectual Capital (Z)

The following is a classification of the intellectual capital category of BUMN companies for the 2018-2022 period based on VAIC criteria according to Ulum (2013):

Table 7. Intellectual Capital Frequency Distribution

Criteria	Category	Frequency	Percentage
$Skor\ VAIC < 1{,}5$	*Bad Performers*	22	20,95%
$1{,}99 > Skor\ VAIC > 1{,}5$	*Common Performers*	17	16,19%
$2{,}99 > Skor\ VAIC > 2$	*Good Performers*	26	24,76%
$Skor\ VAIC > 3$	*Top Performers*	40	38,'10%

Source: Data processed by Ms. Excel, 2024

B. Panel Data Regression Model Selection Test

Chow Test

Table 8. *Chow* Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0,878199	(20,80)	0,6138

Source: Data processed by Eviews 12, 2024

Based on the chow test results obtained, the probability value of cross section F is 0.6138 > the research significance level (0.05), then H1 is rejected H0 is accepted. So that the best model is the Common Effect Model (CEM).

Lagrange Multipier Test

Table 9. Lagrange Multipier Test

	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	0,307957	1,405956	1,713912
	(0,5789)	(0,2357)	(0,1905)

Source: Data processed by Eviews 12, 2024

Based on the results of the Lagrange Multipier test obtained, the Breusch-Pagan probability value of 0.5789> the research significance level (0.05), then H1 is rejected H0 is accepted. So that the best model chosen for this research is the Common Effect Model (CEM).

C. Classical Assumption Test

Normality Test

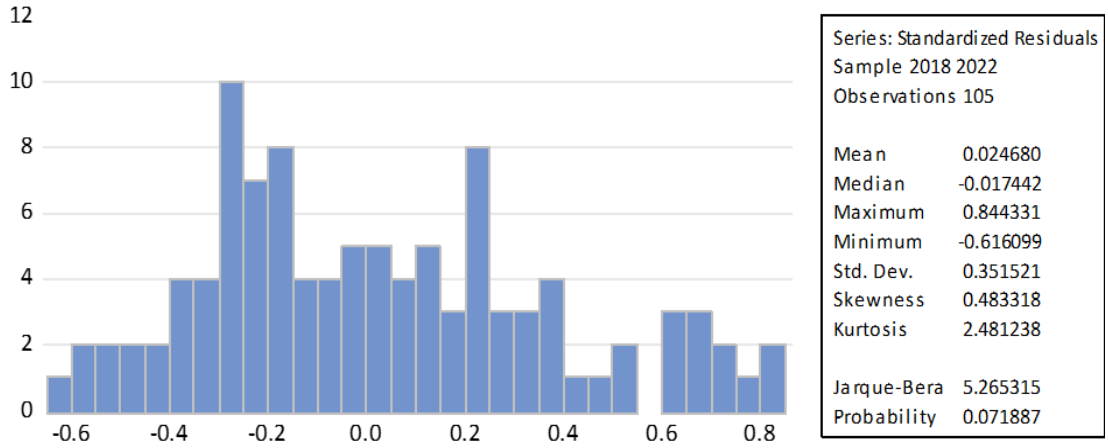

Figure 2. Jarque Bera Normality Test

Based on the picture of the normality test results, the probability value is 0.0718> the research significance level (0.05) which means that H1 is accepted H0 is rejected so it can be concluded that the residual data is normally distributed.

Multicollinearity Test

Table 10. Multicollinearity Test Correlation

	X1	X2	X3	Z
X1	1,0000	-0,1445	0,0498	0,8172
X2	-0,1445	1,0000	0,0673	-0,1706
X3	0,0498	0,0673	1,0000	0,0375
Z	0,8172	-0,1706	0,0375	1,0000

Source: Data processed by Eviews 12, 2024

Based on the results of the multicollinearity test, it can be seen that the correlation value between variables with each other is less than 0.90 so it can be said that this research model does not have multicollinearity symptoms.

Heteroscedasticity Test

Table 11. Glejser Test

Dependent Variable: ABS(RESID)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0,9105	0,5633	-1,6163	0,1092
X2	-0,0619	0,0087	-0,7136	0,4772
X3	0,0002	0,0002	0,9557	0,3415
Z	0,0309	0,0186	1,6551	0,1010

Source: Data processed by Eviews 12, 2024

Based on the results of the heteroscedasticity test, the probability value of each independent variable and moderating variable is more than the research significance level (0.05), which indicates that the regression model does not have heteroscedasticity symptoms.

Autocorrelation Test

Table 12. Durbin Watson Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,053641	0,062560	-0,857428	0,3933
X1	1,838043	0,757257	2,427237	0,0170
X2	-0,908415	0,116687	-7,785069	0,0000
X3	-0,000510	0,000303	-1,683977	0,0953
Z	0,036882	0,025056	1,471987	0,1442
Adjusted R-squared				0,537796
Prob (F-statistic)				0,000000
Durbin-Watson Stat				1,579918

Source: Data processed by Eviews 12, 2024

Based on the research significant level (0.05), the number of samples is 105, and the total number of independent variables is 3, the lower limit value of the Durbin Watson Table (dL) is 1.64334 and the upper limit value of the Durbin Watson Table (dU) is 1.72087. In the autocorrelation test results, the calculated durbin watson value is 1.579918. The study was detected to have positive autocorrelation symptoms because the calculated d value (1.579918) < dL (1.64334). Therefore, an autocorrelation test is carried out using the differential method to correct the presence of panel data through the removal of outlier data and data transformation. The following are the results of the autocorrelation test after the differentiation method:

Table 13. Autocorrelation Test After Differencing Method

Dependent Variable: D(Y)
Sample (adjusted): 2019 2022
Periods Included: 4
Cross-sections included: 21
Total panel (balanced) observations : 84

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,000509	0,051705	-0,009839	0,9922
D(X1)	3,264682	1,427004	2,287787	0,0248
D(X2)	-0,830891	0,102505	-8,105883	0,0000
D(X3)	-0,000632	0,000274	-2,304440	0,0238
D(Z)	0,014851	0,048125	0,308585	0,7584
Durbin-Watson Stat				2,253796

Source: Data processed by Eviews 12, 2024

Based on Table 12, dU (1.72087) < d count (2.253796) < 4-du (2.27913), so it is concluded that the research variables are free from positive or negative autocorrelation symptoms.

D. Panel Data Regression Analysis

First Regression Equation Model Goodness of Fit Test

Table 14. *Goodness of Fit* Test of Regression Equation Model 1

Regression Equation Model I	
Adjusted R-squared	0,532456
Prob(F-statistic)	0,000000
Durbin-Watson Stat	1,547619

Source: Data processed by Eviews 12, 2024

Based on Figure 4.7.1, the Adjusted R Squared value is 0.5325. This illustrates that the model has a moderate ability to vary the independent variables, which is 53.25% in influencing the variation in the dependent variable and the remaining 46.75% is influenced by external factors outside the first regression equation model. The probability value (F-statistic) is 0.00 < the research significance level (0.05), then H1 is accepted H0 is rejected. So it is concluded that the independent variables simultaneously have a significant effect on the dependent variable.

Hypothesis Test of the First Regression Equation Model

Table 15. Hypothesis Test of Regression Equation Model 1

Regression Equation Model I				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.019044	0.038634	0.492291	0.6231
X1	2.743602	0.444101	6.177874	0.0000
X2	-0.924227	0.116861	-7.908803	0.0000
X3	-0.000510	0.000305	-1.672334	0.0976

Source: Data processed by Eviews 12, 2024

Based on table 15, the first appropriate regression equation model is:

F-Score = 2.7436 ROA - 0.9242 NOI

Goodness of Fit Test of the Second Regression Equation Model

Table 16. *Goodness of Fit* Test of Regression Equation Model 2

Regression Equation Model II	
Adjusted R-squared	0,571788

Prob(F-statistic)	0,000000
Durbin-Watson Stat	1,552929

Source: Data processed by Eviews 12, 2024

Based on table 16, the Adjusted R Squared value is 0.5718. This illustrates that the model has the ability to moderate variations in independent variables, namely 57.18% in influencing variations in the dependent variable and the remaining 42.82% is influenced by external factors outside the first regression equation model. The increase in influence by 3.93% from the first regression equation model to the second regression equation model can be due to the presence of moderating variable interactions that can strengthen or weaken the influence of the independent variable on the dependent variable. The probability value (F-statistic) is 0.00 < the research significance level (0.05), then H1 is accepted H0 is rejected. So it is concluded that the independent variable simultaneously has a significant effect on the dependent variable.

Hypothesis Test of the Second Regression Equation Model

Table 17. Hypothesis Test of Regression Equation Model 2

Regression Equation Model II				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,028788	0,065884	0,436952	0,6631
X1	2,359646	0,794429	2,970243	0,0038
X2	-0,573074	0,175647	-3,262643	0,0015
X3	0,001962	0,025645	0,277794	0,7818
Z	0,010337	0,025645	0,403078	0,6878
X1Z	-0,177777	0,073758	-2,410296	0,0178
X2Z	-0,102514	0,039556	-2,591613	0,0110
X3Z	-0,001536	0,004393	-0,349612	0,7274

Source: Data processed by Eviews 12, 2024

Based on table 17, the first appropriate regression equation model is:

F-Score = 2.3596 ROA - 0.5730 NOI - 0.1777 ROA*VAIC - 0.1025 NOI*VAIC

The following is a summary of the results of hypothesis testing:

Table 18. Hypothesis Testing Results

Hypothesis	Coefficient	Significance	Hypothesis Testing Results
H1	2,7436	0,0000	Accepted, sig <0.05; *Financial Target* has a significant positive effect on Financial Statement Fraud
H2	-0,9242	0,0000	Rejected, sig <0.05; *Nature Of Industry* has a significant negative effect on Financial Statement Fraud.
H3	-0,0005	0,0976	Rejected, sig> 0.05; *Bonus Mechanism* has no significant effect on Financial Statement Fraud.

H4	-0,1777	0,0178	Accepted, sig < 0.05; *Intellectual Capital* can weaken the influence of *Financial Target* on *Financial* Statement Fraud.
H5	-0,1025	0,0110	Rejected, sig < 0.05; *Intellectual Capital* can strengthen the effect of *Nature Of Industry* on Financial Statement Fraud.
H6	-0,00015	0,7274	Rejected, sig> 0.05; *Intellectual Capital* cannot moderate the effect of *Rationalization* on Financial Statement Fraud.

Source: Data Processing Results (2024)

Financial Target Has a Positive Effect on Financial Statement Fraud

Referring to agency theory, the high financial targets set along with the amount of responsibility of the agent to the principal can then trigger pressure on the agent to meet the profit targets that have been set in accordance with the demands of the principal which are at least equal to or more than the previous year's profit. This study uses ROA in measuring financial targets. ROA shows how much return on assets owned by the company as a measure of operational performance which can be reflected in the size of the company's profits (Skousen et al. in Nurrahmasari, 2020, p. 128). However, high profitability does not necessarily reflect quality earnings. This is because ROA is often considered as a bonus, stock return, and wage increase which causes ROA to look high compared to the previous period to show the company's performance is getting better, so that it can be a reference for the principal and agent to set a higher financial target in the next period (Putra & Wibowo, 2021). Therefore, financial targets are incentives that motivate agents to manipulate profits in order to obtain investment funds and compensation for their performance.

The results of this study are in accordance with the research of Anisykurlillah et al. (2023), Suharsana & Prisiena (2019) which say that financial targets have a significant positive effect on financial statement fraud. However, this study contradicts the results of research by Widawati et al. (2022), Bhaktiar & Setyorini (2021), Lestari & Sudarno (2019) which say that financial targets have no significant effect on financial statement fraud.

Nature of Industry Negatively Affects Financial Statement Fraud

Referring to agency theory, the agent is the principal's trusted party in managing corporate governance (Nurrahmasari, 2020). Therefore, agents will utilize all means to provide performance that looks good to investors in order to maintain their position and receive incentives. If the company is faced with a worsening industry situation, the management as an agent will take advantage of this opportunity to commit financial statement fraud by manipulating the estimated account balance so that the performance performance can look good. Vice versa, when the company is in a good industry situation, namely in the industry average, the opportunity for potential fraudulent financial statements will be smaller because the company's financial condition is relatively stable. Stable financial conditions in the company are certainly able to attract investors to invest their capital, thus making agents not dare to commit fraud because of the high supervision from external parties at that time which causes low opportunities for fraud. Therefore, agents tend not to commit fraud in order to avoid very

high risks (risk averse) which can damage the company's good image and threaten the agent's position in the related company.

The results of this study are in accordance with the research of Anisykurlillah et al. (2023), Ahmadiana & Novita (2019) which say that the nature of industry has a significant negative effect on financial statement fraud. But contrary to the results of research by Widawati et al. (2022), Lestari & Sudarno (2019) which state that nature of industry has no significant effect on fraudulent financial statements.

Rationalization Has No Effect on Financial Statement Fraud

Based on the results of data processing, the majority of BUMN companies have good performance productivity. This condition causes the amount of bonus compensation provided by the principal is not the main motivation for management to commit fraudulent financial statements (Sosiawan, 2012). This is in accordance with agency theory, namely human assumptions where each individual often tries to avoid risk (risk averse), so that management certainly needs to analyze the risk opportunities it will face before committing fraudulent acts such as earnings management. When the company has good performance productivity, the management will certainly consider committing fraud at that time to be very high risk and irrational because it can risk the position and good name that he has managed to build. In addition, the bonus received by management also cannot be a promising additional income because it is based on an increase in the percentage of net profit earned by the company.

The results of this study are in accordance with the research of Adha & Indryani (2024), Purba et al. (2022) which states that the bonus mechanism has no significant effect on financial statement fraud. However, it is contrary to the results of research by Mariati & Indrayani (2020) which states that the bonus mechanism has a significant effect on financial statement fraud.

Intellectual Capital Weakens the Effect of Financial Target on Financial Statement Fraud

The presence of good intellectual capital in a company can prevent fraud. This is because good intellectual capital reflects that the company has quality human resources, a supportive corporate culture and system, and positive interactions between agents and principals. This is what can help companies achieve the desired financial targets by producing quality profits and increasing the credibility of financial statements, so as to prevent fraudulent financial statements.

The results of this study are supported by the research of Darabi et al. (2012) which says intellectual capital has a significant positive effect on earnings quality. This indicates that intellectual capital also has a positive effect on financial reporting activities. Another study that supports the results of this study is the research of Clarke et al. (2011) which states that intellectual capital has a positive effect on company performance, especially ROA. Clarke et al. (2011) also said that by strengthening intellectual capital such as having intellectual and skilled employees and building the efficiency of the company's internal capital, this can affect better company performance in the future.

Intellectual Capital Strengthens the Effect of Nature of Industry on Financial Statement Fraud

Good intellectual capital in the company in the midst of worsening industry conditions can be an additional opportunity for agents to utilize their abilities and knowledge to act fraudulently such as outsmarting the accounting system in order to achieve benefits for

themselves (self interest). Industry conditions can be seen in estimated accounts such as accounts receivable and inventory which use subjectivity in their assessment. This then becomes information asymmetry which, if accompanied by a lack of efficiency in supervising the company, causes the potential for fraudulent financial statements to emerge.

The results of this study are in line with the statement of Claudia & Dewi (2023) that companies increase intellectual capital to win market competition, which is a strategy and not the company's top priority. Intellectual capital is also very difficult to quantify in financial statements, so it cannot be directly highlighted as an attractive added value for the company (Sawarjuwono & Kadir, 2003). This is what makes agents will commit fraudulent financial statements such as manipulation of estimated account balances by utilizing their intellectual capital so that the company looks promising in the eyes of investors so that it can attract more funding sources.

Intellectual Capital is Not Able to Moderate the Effect of Rationalization on Financial Statement Fraud

Intellectual capital is closely related to human capital based on company employee expenses such as salaries, benefits, and facilities. Based on the results of data processing, the majority of BUMN companies already have intellectual capital according to minimum standards, which indicates that the employee remuneration system has been implemented properly and smoothly, so that the bonus scheme is not the main motivation for management to rationalize potentially high-risk fraud. Stewart (cited by Cahyati, 2017, p. 2) says intellectual capital is an important indicator in measuring intangible assets in the form of the quality of a company's human resources based on information, knowledge, experience, and intellectual property aimed at creating prosperity which is not related to individual thoughts about how to rationally justify an act of fraud.

V. CONCLUSION

Based on the results of research and discussion, it is concluded that the pressure factor with the proxy financial target has a significant positive effect on the potential for fraudulent financial statements. The opportunity factor with the nature of industry proxy has a significant negative effect on the potential for fraudulent financial statements. The rationalization factor with the proxy bonus mechanism has no significant effect on the potential for fraudulent financial statements.

The existence of intellectual capital can weaken the influence of pressure factors with financial target proxies on the potential for fraudulent financial statements. The existence of intellectual capital actually strengthens the influence of the opportunity factor with the nature of industry proxy on the potential for fraudulent financial statements. The existence of intellectual capital cannot moderate the effect of the rationalization factor on fraudulent financial reporting.

Advice

Based on the research results, the appropriate suggestions for future researchers are to enrich the accumulation of research samples in order to obtain more complex and specific information related to the influence of research variables, add other independent variables

and moderating variables that have a potential influence on financial statement fraud, and use the latest *fraud* theory to expand the scope of research.

Implications

This research can be useful as additional literature for the community and academics. This research can also be a suggestion for company management to strengthen *intellectual capital,* corporate governance mechanisms, and internal control to prevent fraudulent financial statements. This research can also be a new view for potential investors and creditors to pay attention to all factors that can influence financial statement fraud and intellectual capital owned by a company so that they do not take the wrong step in making economic decisions.

Research Limitations

This research does not escape the limitations, namely that research cannot describe the entire state of BUMN companies related to the potential for fraudulent financial statements, research cannot know in depth about the presence or absence of *fraud* in related companies because it only relies on secondary data, and this research cannot provide long-term predictions because it only focuses on the 2018-2022 period.

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