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Unveiling Fraud: The Hexagon Theory's Revolutionary Approach to Detecting Financial Statement Manipulations

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A B S T R A C T

This study aims to determine and empirically prove how the influence of the fraud hexagon theory on financial statements. The research encompasses a population of non-financial S.O.E.s, utilizing secondary data and logistic regression analysis via S.P.S.S. software. A purposive sampling technique was employed, resulting in 102 valid samples for analysis. The study reveals that the opportunity, as indicated by the nature of the industry, significantly and positively impacts financial statement fraud. Conversely, pressure indicated by Return on Assets (ROA), changes in directors reflecting capability, changes in public accountants reflecting rationalization, C.E.O. duality reflecting arrogance, and government projects reflecting collusion do not exhibit a significant effect on financial statement fraud. This research demonstrates that a high ratio of changes in receivables to income increases the likelihood of fraud. Moreover, it confirms the Fraud Hexagon Theory's applicability in detecting a company's propensity for financial statement fraud. The novelty of this study lies in the inclusion of the government project variable (collusion), using National Strategic Project criteria as an indicator, which has yet to be extensively explored in prior research.

A R T I C L E   I N F O

1. INTRODUCTION

Financial reports play a critical role in the operational and strategic activities of a company. They provide a snapshot of the Company's financial condition, guiding investors in their decision-making processes. Consequently, the integrity and objectivity of these reports are paramount (Nasir et al., 2018). However, various factors can undermine the reliability of financial reports, leading to diminished investor confidence. One significant factor is the prevalence of fraudulent financial statements. According to the Association of Certified Fraud Examiners (A.C.F.E.) Indonesia (2019), fraud remains a persistent challenge in the business world. The necessity of high-quality financial reports underscores the importance of research focused on detecting fraud within the field of audit accounting, thereby contributing valuable insights into fraud detection theories A.C.F.E. Indonesia (2019).

Fraudulent activities do not occur in a vacuum; they are driven by underlying motives and conditions (A.I.C.P.A., 2018). In corporate structures, the relationship between shareholders (principals) and managers (agents) often gives rise to conflicts of interest, as articulated by the Agency Theory developed by Jensen and Meckling (1976) and further discussed by Istiyanto and Yuyetta (2021). These conflicts stem from divergent goals, with agents potentially engaging in actions that serve their interests rather than those of the principals. Preventing fraud necessitates identifying the factors that facilitate fraudulent behaviour, enabling regulators to devise effective measures. The evolution of fraud detection theory has seen significant advancements, beginning with Donald R. Cressey's Fraud Triangle (1953), progressing to the Fraud Diamond, the Fraud Pentagon, and most recently, Georgios L. Vousinas' Fraud Hexagon in 2019. Vousinas' model introduces six factors—Stimulus, Capability, Collusion, Opportunity, Rationalization, and Ego (S.C.C.O.R.E.)—as the drivers of fraudulent behaviour (Vousinas, 2019).

The A.C.F.E.'s Reports to the Nation highlights the prevalence of fraud cases globally, with a notable concentration in the Asia-Pacific region. While the overall number of fraud cases in this region decreased by 10% from 2018 to 2020, Indonesia saw an increase from 29 to 36 cases during the same period (A.C.F.E., 2018, 2020). Indonesia, according to A.C.F.E. data, had the highest number of fraud cases in the Asia-Pacific region in 2020. This increase in fraud cases has significantly impacted various sectors, including State-Owned Enterprises (S.O.E.s). An A.C.F.E. Indonesia survey (2019) revealed that S.O.E.s are the second most affected institutions by fraud, following the government sector.

Several high-profile fraud cases have been reported among Indonesian S.O.E.s, illustrating the pervasive nature of this issue. For instance, P.T. Garuda Indonesia has been repeatedly embroiled in corruption scandals. In 2021, the Company faced a debt crisis amounting to approximately 100 trillion rupiahs, partly due to fraudulent activities (CNBC Indonesia, 2019). Another notable case involved PT Asuransi Jiwasraya, which was implicated in a corruption scandal leading to state losses estimated at 16.8 trillion rupiahs. The corruption at P.T. Krakatau Steel also stands out, where illicit practices were discovered in the procurement process, causing significant financial harm (CNN Indonesia, 2021).

The persistence of such fraud cases highlights the need for effective detection and prevention strategies. Despite efforts to curb fraudulent activities, the increasing incidence of fraud in S.O.E.s indicates that existing measures are insufficient. The quest for effective fraud detection and prevention methods remains a high priority for many stakeholders (Syahputra and Afnan, 2020) Previous studies have highlighted research gaps due to inconsistent findings. For example, Aviantara (2021) found that all Fraud Hexagon indicators, except for Ego (proxied by the C.E.O.'s education and military background), influence fraudulent financial statements. In contrast, Bader et al. (2024) identified pressure, opportunity, and collusion as significant factors affecting fraudulent financial statements.

This research aims to re-examine the Fraud Hexagon by incorporating indicators tailored to the specific characteristics of the sample, notably using the National Strategic Project to measure collusion. By doing so, this study seeks to empirically validate the factors outlined in Vousinas' Fraud Hexagon and contribute to the body of knowledge in audit accounting research. The analysis of these high-profile fraud cases within S.O.E.s provides a relevant context for understanding the mechanisms and motivations behind fraudulent activities. This context underscores the importance of developing robust fraud detection frameworks that are adaptable to the unique conditions and challenges faced by non-financial S.O.E.s in Indonesia.

In contrast to prior studies, this research explicitly addresses the application of the Fraud Hexagon Theory to detect financial statement fraud in non-financial state-owned enterprises (S.O.E.s) in Indonesia, offering a nuanced perspective on the influence of unique organizational structures and governance practices within this sector. Previous studies, such as those by Imtikhani and Sukirman (2021) and Octani et al. (2022), have examined various elements of fraud, like C.E.O. duality and external auditor turnover, respectively, but have generally concluded that these factors do not significantly influence the propensity for financial fraud. By integrating the Fraud Hexagon Theory, this research aims to fill a critical gap by providing a comprehensive framework that encapsulates the multifaceted motivations and opportunities for fraud within Indonesian S.O.E.s. This study's innovative approach not only tests the applicability of a relatively new theoretical model in a specific context but also highlights the importance of considering sector-specific variables and the broader regulatory environment that influences corporate behaviour.

2. METHODS

This study used Non-financial State-Owned Enterprises listed on the IDX as the population, and the sample was taken using a purposive sampling method with the following criteria:
1. Non-financial State-Owned Enterprises listed on the IDX from 2016 to 2021.
2. Non-Financial State-Owned Enterprises that remain on the IDX company list from 2016 to 2021.
3. Companies that stay as State-Owned Enterprises from 2016 to 2021.
4. Non-financial State-Owned Enterprises that present the data needed for observation and are fully published for the 2016-2021 period.

Based on these criteria, 102 research samples were obtained. This research was processed with IBM SPSS 26 using logistic regression analysis because the dependent variable is dichotomous. Hence, the dependent variable only has two values, namely, 0, which means there is no indication of fraudulent financial statements and 1, which means there is an indication of fraudulent financial statements. This study will carry out several tests, such as descriptive statistics to describe the data that has been obtained, in addition to several tests carried out to test the model, such as the overall model test, Hosmer and Lemeshow's fit test, coefficient of determination test, and matrix classification test. In addition, to answer the hypotheses that have been made, the Wald test and Omnibus test were carried out to find out how each independent variable in this study both partially and simultaneously affects the dependent variable and using $\alpha = 0.1$ as the level of significance in this study (Ghozali, 2021).

This study has one dependent variable and six independent variables. These variables are listed in **Table 1**.

Table 1. Table measurement

Variable	Proxies	Measurement
Y	Fraudulent Financial Statement (F-Score)	Dummy: 1 if F-Score > 1, 0 if F-Score < 0
X1	Stimulus (Financial Target)	$ROA = \dfrac{\text{Net Earning after Tax}_{it}}{\text{Total Assets}_{it}}$
X2	Capability (Director Change)	Dummy: 1. If there is a change in the board of directors, 0 if there is not a change in the board of directors
X3	Opportunity (Nature of Industry)	$RECEIVABLE = \dfrac{\text{Receivable}_{it}}{\text{Sales}_{it}} - \dfrac{\text{Receivable}_{it-1}}{\text{Sales}_{it-1}}$
X4	Rationalization (External Auditor Change)	Dummy: 1. If there is a change in the Public Accounting Firm, 0 if there is not a change in the Public Accounting Firm
X5	Ego (C.E.O. Duality)	Dummy: 1. If there is a C.E.O. duality, 0 if there is not a C.E.O. duality
X6	Collution (Government Project)	Dummy: 1. If the Company has a project with the government, 0 if the Company does not have a project with the government

Source: Richardson et al. (2005) and Skousen et al. (2011)

3. RESULTS AND DISCUSSION
3.1. Descriptive Statistic

Based on **Table 2**, information is obtained that the dependent variable FFS has a standard deviation of 0.236 and an average value of 0.06, or 6% of sample companies are indicated to tend to commit fraudulent financial statements. The FFS variable is dichotomous and only has two values, namely 1 and 0, so the maximum value is one and the minimum is 0.

The independent variable ROA has an average value of 0.013322 and a standard deviation of 0.08189. The ROA variable has a maximum value of 0.2431 or 24.31%, which comes from PT Jasa Marga in 2018, and a minimum value of -0.5803 or -58.03%, which comes from the ROA of P.T. Garuda Indonesia in 2021. The D.C.H.A.N.G.E. variable has an average value of 0.8 or there are 80% of the research sample companies that have changed directors. D.C.H.A.N.G.E. has a standard deviation of 0.399, and the D.C.H.A.N.G.E. variable is dichotomous, so it only has two values, namely 1 and 0, so that the maximum value is one and the minimum is 0.

The RECEIVABLE variable has an average value of 0.010665 and a standard deviation of 0.086. The RECEIVABLE variable has a maximum value of 0.4802 or 48.02%, which was owned by PT Jasa Marga in 2016, and a minimum value of -0.1884 or -18.84%, which came from PT Jasa Marga in 2020. The AUDCHANGE variable has an average value of 0.26, or 26% of the research sample that changes public accounting firms, and a standard deviation of 0.443. The AUDCHANGE variable is dichotomous, which only has two values, 1 and 0, so the maximum value is one and the minimum is 0.

The C.E.O.D.U.A.L. variable has an average value of 0.44, or there are 44% of the research sample companies whose president, director, or C.E.O. has more than one position and a standard deviation of 0.499. The C.E.O.D.U.A.L. variable is dichotomous, which only has two values, 1 and 0 so that the maximum value is one and the minimum is 0. The G.P.R.O. variable has an average value of 0.54, or 54% of companies from the research sample participate in the National Strategic Project and a

standard deviation of 0.501. The G.P.R.O. variable is dichotomous and only has two values, namely 1 and 0, so the maximum value is one and the minimum is 0.

Table 2. Descriptive statistic

Variable	N	Minimum	Maximum	*Mean*	*Std. Deviation*
FFS	102	0	1	.06	.236
ROA	102	-.5803	.2431	.013322	.0818892
DCHANGE	102	0	1	.80	.399
RECEIVABLE	102	-.1884	.4802	.010665	.0861691
AND CHANGE	102	0	1	.26	.443
CEODUAL	102	0	1	.44	.499
GOPRO	102	0	1	.54	.501

Source: IBM SPSS 26 Output Result

Overall Model Test

The overall model assessment aims to test whether the hypothesized regression model is in accordance with the data. Based on **Table 3**, the Model Fit block 0: -2LL step 0 shows a constant result between -2LL and a constant coefficient at a value of 45.638 with a constant coefficient of -2773.

Table 3. Overall model fit test block 0: -2 L.L. step 0 (start)

Iteration		-2 L.L.	Coefficients Constant
Step 0	1	53.421	-1.765
	2	46.225	-2.465
	3	45.646	-2.735
	4	45.638	-2.772
	5	45.638	-2.773

Source: IBM SPSS 26 Output Result

Then, **Table 4** shows the Model Fit Test block 1: -2LL step 1, which has a constant result between -2LL and a continuous coefficient at a value of 36.262 with a constant coefficient of -3.620.

Table 4. Overall model fit test block 0: -2 L.L. step 0 (end)

Iteration		-2 L.L.	Coefficients Constant
Step 1	1	49.684	-1.815
	2	38.892	-2.692
	3	36.563	-3.293
	4	36.270	-3.571
	5	36.262	-3.619
	6	36.262	-3.620
	7	**36.262**	**-3.620**

Source: IBM SPSS 26 Output Result

Based on the overall model test, it can be seen in **Table 5** that the values of -2LL Block 0 and -2LL Block 1 decreased by 9,376 from 45,638 to 36,262 after the independent variables were included.

Based on the test results, it is proven that the independent variables included in the model have improved the model to fit.

Table 5. Deduction -2 L.L. block 0 and block 1

-2LL block 0	45,638
-2LL block 1	36,262
-2LL Deduction	9,376

Source: IBM SPSS 26 Output Result

Hosmer and Lemeshow's Goodness of Fit Test

Hosmer and Lemeshow's Goodness of Fit Test aims to measure whether the model in this study matches the observed values. **Table 6** shows that the significance value of the data in this study is 0.758, greater than 0.1, so the model in this study is appropriate and can predict the value of the observations.

Table 6. Hosmer and lemeshow's goodness of fit test result

Hosmer and Lemeshow Test			
Step	**Chi-square**	**df**	**Sig.**
1	4,992	8	,758

Source: IBM SPSS 26 Output Result

Coefficient Determination Test

The coefficient of determination test is used to see whether the independent variable can explain the dependent variable. **Table 7** shows that the Nagelkerke R Square value is 0.243, which indicates that in this study, the independent variable was able to explain the dependent variable by 24,3%. In contrast, the remainder was described by other variables that were not explained further in this study.

Table 7. Coefficient determination test result

Cox and Snell R Square	**Nagelkerke R Square**
,088	,243

Source: IBM SPSS 26 Output Result

Classification Matrix Test

The classification matrix test aims to assess the strength of the regression model in predicting the possibility of acceptance of the dependent variable, which, in this study, indicated fraudulent financial statements. **Table 8** shows the overall percentage of the classification matrix test of 94.1%, which means that the accuracy of the logistic regression calculations in this study is 94.1%.

Table 8. Classification matrix test result

Predicted / Observed		FFS		Percentage Correct
		Not indicated	**Indicated**	
FFS	**Not indicated**	95	1	99,0
	Indicated	5	1	16,7
Overall Percentage				**94,1**

Source: IBM SPSS 26 Output Result

Wald Test

The Wald test aims to measure how the independent variable, in this study, the indicators representing the fraud hexagon, partially influences the dependent variable. Based on the results displayed in **Table 9**, partial relationships can be seen for each research variable.

Table 9. Wald test result

Variable	B	S.E.	Wald	df	Sig.	Hypothesis
ROA	-4.937	3.701	1.779	1	.182	Rejected
D.C.H.A.N.G.E.	.624	1.450	.185	1	.667	Rejected
RECEIVABLE	8.746	4.018	4.738	1	.029	Accepted
AND CHANGE	-.072	1.195	.004	1	.952	Rejected
C.E.O.D.U.A.L.	.857	1.012	.717	1	.397	Rejected
GOPRO	-1.313	1.115	1.387	1	.239	Rejected
Constant	-3.620	1.474	6.033	1	.014	

Source: IBM SPSS 26 Output Result

Omnibus Test of Model Coefficients

The Omnibus Test of Model Coefficients test aims to find out how the independent variables, in this study, the indicators representing the fraud hexagon, in this research simultaneously influence the dependent. Based on the results of the Omnibus Test of Model Coefficients that shown in **Table 10**, a significance value of 0.064 was obtained, where this value was under 0.1, so the independent variables in this research were proven to influence the dependent variable simultaneously.

Table 10. Omnibus test of model coefficients result

		Chi-square	Df	Sig.
Step 1	**Step**	11.906	6	.064
	Block	11.906	6	.064
	Model	11.906	6	.064

Source: IBM SPSS 26 Output Result

3.2. The Effect of Pressure on Fraudulent Financial Statements

Based on the results of the Wald Test, the significance value for the financial target is 0.182, which is greater than the level of significance used in this study (α = 0.1). Therefore, the pressure proxied by ROA does not have a significant partial relationship with FFS, and hypothesis 1, which states that financial targets have a considerable positive relationship with fraudulent financial statements, is not supported.

According to the Fraud Hexagon theory developed by Vousinas (2019), one of the indicators that drives fraud is pressure. Pressure can be received in various forms, one of which is the Company's financial targets. This theory also supports the agency theory developed by Jensen and Meckling (1976) regarding the relationship between management and the principal. Management needs to be able to provide the best performance and results to the principal. Management, as a party that

knows more about the Company's operations, is expected to be able to effectively and efficiently utilize the assets owned by the Company and provide significant income. The need to report better results than before to be considered to have good performance puts management under pressure and encourages them to continue to show good performance. It also enables management to commit fraud if the results do not reach the target. In this study, ROA represents the financial target that proxies pressure. The greater the ROA value, the better the Company utilizes its assets to generate income. A considerable ROA value is considered to put pressure on management to provide even better performance.

However, the results of this study are outside the theory. This can be caused by the existing pressure not being strong enough to make the Company commit financial reporting fraud, and the development of rules and corporate governance can also cause it. Sari and Nugroho (2020) also, in their research, stated that financial targets do not have a significant influence on the tendency of financial reporting fraud. This is also in line with the results of the study by Nizarudin et al. (2023), which states that the economic pressure that occurs in the type of sample company is not strong enough and can encourage fraud.

3.3. The Effect of Capability on Fraudulent Financial Statements

The capability in this study is proxied by the change of directors has a coefficient value of 0,624, which means the change of directors that occurs in Non-financial State-Owned Enterprises listed on the IDX in 2016-2021 has a positive impact on fraudulent financial statements. In addition, the proxy for changes in directors has a significance value of 0.667, where this value is above the level of significance used in this study ($\alpha = 0.1$), so hypothesis 2, which states that changes in directors have a significant positive relationship with fraudulent financial statements is not supported. Therefore, changes in directors that occurred in Non-financial State-Owned Enterprises listed on the IDX in 2016-2021 did not have a significant effect on the tendency of companies to commit fraudulent financial statements.

Based on the results of the analysis, changes in the board of directors do not significantly affect the tendency of fraudulent financial statements in the Company. The replacement of the board of directors in a company can occur if the director's contract has ended because, as stated in Government Regulation of the Republic of Indonesia Number 45 of 2015 concerning the Establishment, Management, Supervision and Dissolution of S.O.E.s Article 19 paragraph 1 which states that member of the board of directors have a maximum term of ten years with a maximum term of five years and can be reappointed once so that the changed directors may have served for five to ten years (jdih.kemenkeu.go.id, 2005). In addition, changes in the members of the board of directors might be a strategy for the Company to improve their performance by replacing the board of directors with new, more competent directors.

The results of this study support the research conducted by Handoko and Tandean (2021), which states that the change of directors does not have a significant effect on fraudulent financial statements. The results of Pangestu et al. (2020) also give the same result that changes to the board of directors do not affect the tendency of fraudulent financial statements because even though there is a change of directors and the directors are competent and have the capability to commit fraudulent financial statements, the Company has reasonable control and regulation so as to minimize the opportunity for directors to commit fraud.

The insignificance of the capability variable suggests that changes in the board of directors do not substantially impact the likelihood of financial statement fraud in the sampled S.O.E.s. This could be due to the bureaucratic nature of S.O.E.s, where management changes are more routine and less impactful on the overall governance structure.

3.4. The Effect of Opportunity on Fraudulent Financial Statements

Opportunity in this study is proxied by the nature of the industry, which is measured using the level of change in receivables on sales, has a significance value of 0.029 where this value is below the significance level used in this study (α = 0.1), so that the nature of the industry has a significant influence against fraudulent financial statements. The nature of the industry has a positive coefficient of 8.746, which means that the nature of the industry has a positive relationship with fraudulent financial statements, so hypothesis 3, which states that the nature of the sector has a significant positive relationship with fraudulent financial statements, is supported. Therefore, the increasing nature of the industry in non-financial state-owned enterprises listed on the IDX from 2016 to 2021 will increase the tendency of companies to commit fraudulent financial statements.

Agency theory assumes that management is the party that has more comprehensive information about the Company. According to the fraud hexagon theory, opportunity is one aspect that causes fraud to occur. Information owned by management creates an opportunity for management to make fraudulent financial statements by taking advantage of the ideal conditions of a company that cannot be separated from subjectivity, one of which is the perfect condition of the Company's receivables. The higher the value of the change in receivables against sales, the greater the tendency of the Company to commit fraudulent financial statements. Accounts receivable cannot be assessed completely objectively because trade receivables cannot be separated from the reserve for bad debts, in which there is an assumption in determining how many unpaid receivables need to be written off. Therefore, the results of this study are in accordance with the fraud hexagon theory developed by Vousinas (2019).

Furthermore, the significant positive effect of the opportunity variable aligns with the theoretical foundation of the Fraud Hexagon Theory. The nature of the industry, as reflected in the changes in receivables, provides an environment where fraudulent activities can be easily concealed. This finding is consistent with previous studies that have identified opportunity as a critical factor in fraudulent financial reporting.

This study supports the results of research conducted by Sari and Nugroho (2020) that the nature of the industry has a significant positive effect on fraudulent financial statements because the increasing number of company receivables indicates there might be some problem with the Company's cash turnover. A substantial increase in accounts receivable can indicate the tendency of a company to commit fraudulent financial statements because the more significant the receivables, the smaller the Company's cash that can be used for operational activities and encourages management to manipulate its financial statements.

3.5. The Effect of Rationalization on Fraudulent Financial Statements

Rationalization, which in this study is proxied by external auditor turnover, has a coefficient value of -0.072, which means that external auditor turnover has a negative relationship to fraudulent financial statements. In addition, the proxy for external auditor turnover has a significance value of 0.952 where this value is above the significance level used in this study (α = 0.1), so hypothesis 4, which states that external auditor turnover has a significant positive relationship with fraudulent financial statements, is not supported. Therefore, changes in external auditors that occurred in Non-financial State-Owned Enterprises listed on the IDX in 2016-2021 did not have a significant effect on the tendency of companies to commit fraudulent financial statements.

According to the Hexagon Theory, rationalization is one of the things that underlies the occurrence of fraud. This study describes the change of external auditors as a form of effort to rationalize fraudulent actions that occur in the Company. According to the Agency Theory developed by Jensen and Meckling (1976), there is asymmetric information between management and principal. Management, which is delegated authority by the principal, has more knowledge about

the running of the Company. Management has an excellent opportunity to commit fraud, and the party who commits it tends to find reasons that can rationalize their fraudulent actions to look reasonable (Budiatmaja and Ramadhan, 2022). One action that can be taken is to replace the external auditor. This assumes that if the Company uses the same external auditor in the next audit period, there is a concern that fraud could be detected.

This study shows that the change in external auditors does not have a significant effect on the tendency to make fraudulent financial statements. Octani et al. (2022) state that auditor turnover only sometimes occurs because the Company wants to cover up its fraudulent financial statements. In companies, especially state-owned companies, some regulations need to be considered that regulate public accounting services. Changes in auditors can occur due to the Regulation of the Minister of Finance of the Republic of Indonesia Number: 17/P.M.K.01/2008 Article 3, paragraph 1 states that a Public Accounting Firm can provide general audit services on financial statements to a company for a maximum of six consecutive financial years (Indonesian Ministry of Finance, 2008). In addition, auditor turnover can occur if the Company is not satisfied with the auditor's performance so that the Company can replace the external auditor in the next period.

The results of this study support the research conducted by Vivianita and Indudewi (2019), which states that changes in external auditors do not have a significant effect on the tendency to make fraudulent financial statements. Fraudulent financial statements are not entirely caused by how good the external auditors are but rather by morals, ethics, and personality. In addition, Wulandari and Maulana (2022) in their research also state that changes in external auditors do not have a significant effect on fraudulent financial statements because existing government regulations influence changes in external auditors in companies in Indonesia.

3.6. The Effect of Ego on Fraudulent Financial Statements

Ego, which in this study is proxied by C.E.O. duality, has a coefficient value of 0.857, which means that the duality of C.E.O.s in Non-financial State-Owned Enterprises listed on the IDX in 2016-2021 has a positive relationship to fraudulent financial statements. However, the C.E.O. duality proxy has a significance value of 0.397, where the value is above the significance level used in this study ($\alpha = 0.1$), so hypothesis 5, which states that there is C.E.O. duality in a company, has a significant positive relationship with fraudulent financial statements. Supported. Therefore, the duality of C.E.O.s in Non-financial State-Owned Enterprises listed on the IDX in 2016-2021 does not have a significant effect on the tendency of companies to commit fraudulent financial statements.

C.E.O. duality does not have a significant effect on fraudulent financial statements because C.E.O.s or presidential directors who have more than one position tend to use their positions to improve company performance so that they can maintain their position in both positions because they are considered to have good performance and have a good impact on the Company. In addition, the duality of the C.E.O.'s position does not affect the tendency of fraudulent financial statements, which can be caused by the excellent performance of the board of commissioners in supervising the performance of the C.E.O. so that the C.E.O. does not abuse his power.

The results of this study support the research conducted by Imtikhani and Sukirman (2021), which states that the duality of positions held by the C.E.O. or the main director does not have a significant effect on the tendency of fraudulent financial statements in the Company. In addition, Bader et al. (2024) in their research also stated that Ego did not have a significant effect on the tendency of fraudulent financial statements in the Company.

3.7. The Effect of Collusion on Fraudulent Financial Statements

Collusion, which in this study is proxied by government projects, has a coefficient value of -1,1313, which means that the participation of Non-financial State-Owned Enterprises listed on the

IDX in 2016-2021 with government projects has a negative relationship to fraudulent financial statements. In addition, the proxy for participation in government projects has a significance value of 0.239 where this value is above the significance level used in this study (α = 0.1), so hypothesis 6, which states that the Company's participation in government projects has a significant positive relationship with fraudulent financial statement is not supported. Therefore, the involvement of non-financial state-owned enterprises listed on the IDX in government projects from 2016 to 2021 does not have a significant effect on the tendency of companies to commit fraudulent financial statements.

Cooperation in government projects, more precisely in National Strategic Projects, does not have a significant impact on fraudulent financial statements. This can be due to differences in views regarding the things the Company wants to achieve. Government projects tend to use B.U.M.N. to execute their activities. In addition, the project that is the focus of this research is the National Strategic Project where, which project focuses on increasing economic growth, equitable development, and community welfare by prioritizing domestic components (kppip.go.id, 2020). In addition, the National Strategic Projects often change the legalonaa; starting in 2022, the National Strategic Projects have undergone four project list changes. This indicates that the National Strategic Project is being tested for its feasibility. If the project is judged not to meet the existing criteria, the project will be removed from the list. This effort can prevent companies that have the intention of colluding.

The results of this study support the research conducted by Sagala and Siagian (2021) that projected collusion with government projects does not have a significant effect on fraudulent financial statements. In addition, Octani et al. (2022) in his research also conclude that the Company's participation in government projects does not affect the tendency of companies to commit fraudulent financial statements.

3.8. Fraud Hexagon Theory on Detecting Fraudulent Financial Statements

The results of the Omnibus Test of Model Coefficients show a significant value below 0.1, indicating that the independent variable—represented by the Fraud Hexagon—simultaneously influences fraudulent financial statements. This finding aligns with Aviantara (2021), who also identified the Fraud Hexagon as a significant predictor of fraudulent financial activities. The relationship between the Fraud Hexagon and fraudulent financial statements is depicted in **Figure 1**, illustrating how the combined effect of the six factors—Stimulus, Capability, Collusion, Opportunity, Rationalization, and Ego (S.C.C.O.R.E.)—can influence fraudulent behaviour.

However, not all partial relationships between each independent variable and financial statement fraud showed significant influence in this study. Despite this, considering each independent variable as a cohesive unit under the Fraud Hexagon Theory reveals a significant simultaneous relationship. This holistic approach underscores the interconnectedness of the factors within the Fraud Hexagon, emphasizing that the synergy among these elements can effectively predict the likelihood of financial statement fraud.

These findings contribute to the existing literature by reaffirming the validity of the Fraud Hexagon Theory in detecting financial statement fraud. Previous studies, such as those by Aviantara (2021) and Vousinas (2019), have highlighted the importance of examining fraud through multiple dimensions. This study further strengthens the theoretical foundation by demonstrating that even if individual factors do not significantly influence fraud in isolation, their combined effect provides a robust framework for detecting fraudulent financial statements in non-financial state-owned enterprises (S.O.E.s) in Indonesia. This integrated approach offers valuable insights for regulators and practitioners aiming to develop more comprehensive fraud detection strategies.
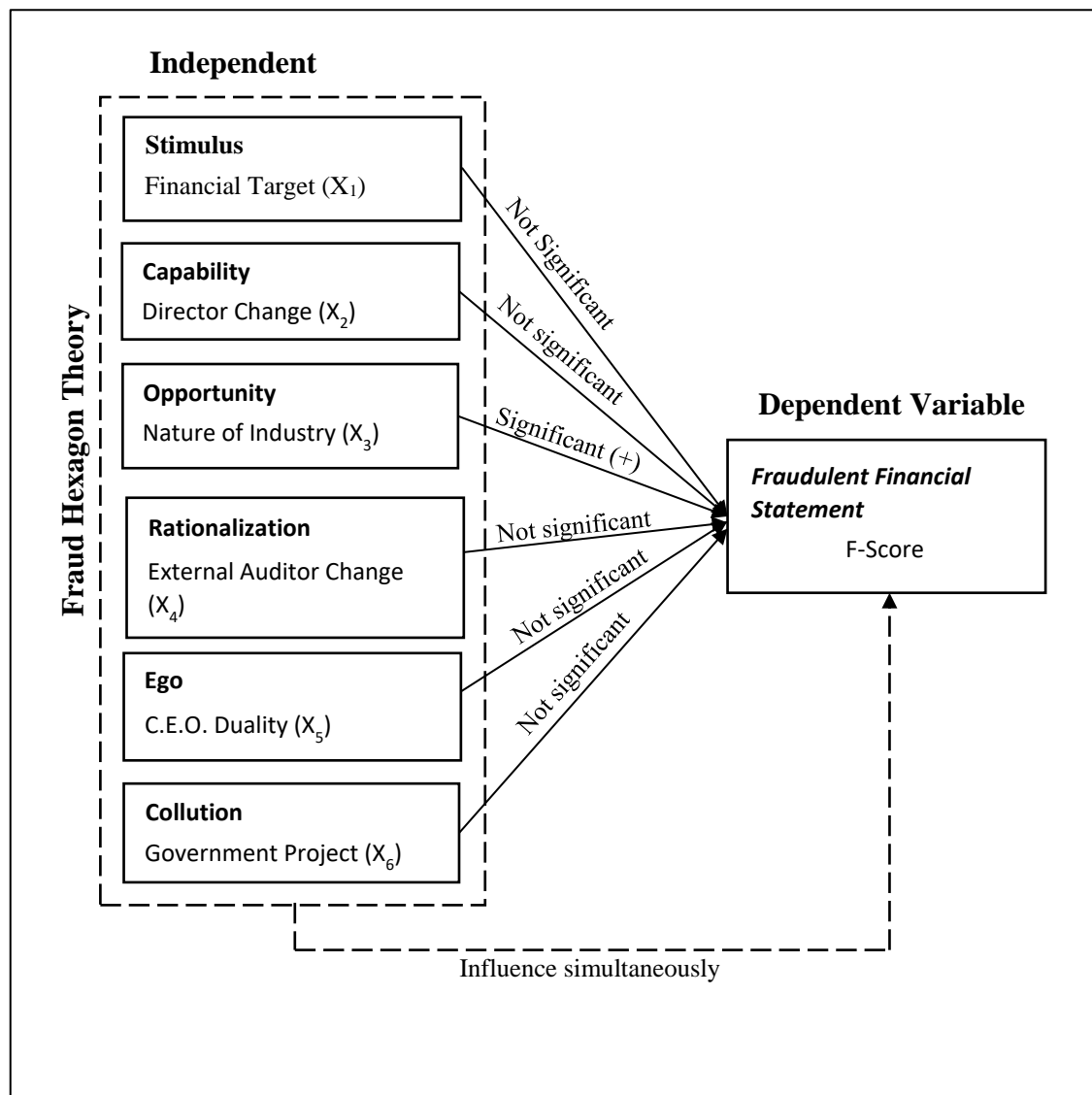
Source: Data Processed (2024)
Figure 1. Research Result Framework

4. CONCLUSION

In conclusion, this study provides a compelling empirical validation of the Fraud Hexagon Theory's utility in detecting financial statement fraud within non-financial state-owned enterprises (S.O.E.s) in Indonesia. Our findings reveal that the opportunity projected by the nature of the industry, measured through changes in receivables to income, significantly influences fraudulent financial reporting. In stark contrast, other factors such as pressure, capability, rationalization, arrogance, and conspiracy, represented by their respective proxies, do not exhibit a significant impact. These results diverge from previous studies, such as Aviantara (2021) and Bader et al. (2024), which identified multiple Fraud Hexagon indicators, including Ego and collusion, as significant predictors. This divergence underscores the unique dynamics at play within Indonesian S.O.E.s, highlighting the critical role of industry-specific opportunities in fostering fraudulent activities.

This research stands out by introducing the National Strategic Project as a novel indicator for conspiracy, a variable previously unexplored in the context of S.O.E.s. This innovative approach not only fills a significant gap in the literature but also demonstrates the adaptability and relevance of the Fraud Hexagon Theory in a specific regulatory and organizational context. By focusing on the peculiarities of non-financial S.O.E.s, our study offers practical insights for

regulators and policymakers aiming to enhance anti-fraud measures. The statistical robustness of our logistic regression model, confirmed by various validation tests, further solidifies the Fraud Hexagon Theory as a comprehensive and robust framework for understanding and detecting financial statement fraud. Our findings advocate for tailored fraud detection strategies that consider the distinct characteristics of S.O.E.s, thereby significantly advancing the discourse on financial fraud prevention and detection.

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