Determinants Fraudulent Financial Statements Using the S.C.O.R.E Model on Infrastructure Sector Companies in Indonesia

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ABSTRACT
The infrastructure sector is the top priority of the Indonesian government's development from 2014 to 2019. Indonesia Corruption Watch (ICW) data shows that the number of corruption cases in infrastructure projects has increased during 2015-2018. The value of losses in corruption cases in infrastructure projects is estimated at 1.1 trillion Rupiah. The results of various studies on the factors affecting fraudulent financial statements show inconsistent results. This research aims to determine the impact of the stimulus, ability, opportunity, rationalization, and self on companies' fraudulent financial statements in the infrastructure industry listed on the Indonesian Stock Exchange (IDX). This study uses quantitative research methods. Sampling techniques use purposeful sampling, that is, hypothesis testing using logistic regression analysis models. The results showed that the stimulus measures had a positive and significant impact on fraudulent financial statements. Competence, opportunity, and rationalization have a positive and insignificant impact on fraudulent financial statements. The impact of self on fraudulent financial statements is negligible. The research supports the agency theory that management can commit fraudulent financial statements and achieve the Company's financial goals.

Keywords: Fraudulent Financial Statement, S.C.O.R.E Model, Infrastructure Sector.

INTRODUCTION
Companies have business complexity and significant business risks, potential targets for fraud. No company or organization is immune to fraud (Purba, 2015: 3). This kind of fraud can occur in all types of companies, including small companies and companies publicly listed on the World Stock Exchange, including in Indonesia.

The infrastructure sector is a top priority for the Indonesian government's development for the 2014-2019 period. Indonesia Corruption Watch (ICW) data shows that the number of corruption cases in infrastructure projects has increased during 2015-2018. In 2015, there were 106 cases of corruption in this sector. The number increased to 133 in 2016 and 2017 to 158 cases. In 2018 there were 167 cases with an estimated loss value of IDR 1.1 trillion (Jayani, 2019).

Fraud factors can be explained in several fraud theories. They are starting from the fraud triangle introduced by Cressey in 1953. Wolfe and Hermanson with the fraud diamond in 2004. Crowe (2011) refines the theory that Cressey has put forward with The Crowe's Fraud Pentagon. Vousinas (2019) introduced the S.C.O.R.E model theory as a fraud pentagon. The elements of fraud in the S.C.O.R.E model are almost the same as those in The Crowe's Fraud Pentagon.

The results of research by ACFE (2016:4) showcases asset misappropriation fraud by 83%, with an average loss of USD 125,000. Furthermore, there were 35.4% fraud cases due to...
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corruption with an average loss of USD 200,000. Then cases of fraud due to fraudulent financial statements amounted to 9.6%, with an enormous average loss, amounting to USD 975,000. Although cases of fraud due to fraudulent financial statements are small, they cause enormous financial losses.


This study is a replication of several previous studies. The determinant of fraudulent financial statements used by Vousinas (2019) is the S.C.O.R.E model. Another difference is that the study population used infrastructure industry companies listed on the Indonesian stock exchange for five years (2013-2017).

A company is a contract (loosely defined) between shareholders or shareholders and company managers. The agency theory was proposed by Jensen and Meckling (1976). The agency theory explains that one or more individuals (as principals) hire one or more other individuals (agents) to operate the Company as an agency relationship. Principals or owners of capital have access to information relating to the Company to make decisions. In contrast, management as agents who have access and information regarding the Company's operations is responsible for providing information to the principal. Meisser et al. (2006:7) explained that this agency relationship causes two problems: asymmetric information (information asymmetry) and the occurrence of a conflict of interest due to different objectives. In practice, agency theory states that it will be difficult to believe that management (agents) will always act based on shareholders' interests (principal). Agency theory explains where a conflict of interest will arise, where management will act for personal interests and not maximize shareholder interests.

Fraud is an action against the law with an element of intent, which aims to cover up the mistakes that have occurred (Tuanakotta, 2013). Tunggal (2012) explains that fraud is defined as "deliberate fraud in finance, which is intended to take assets or rights of other people or parties." The Institute of Internal Auditors (2013) of the IIA (Tuanakotta) explained that fraud refers to any illegal behavior characterized by deception, concealment, or breach of trust. These actions do not rely on the use of violence or threats of force. Individuals and organizations fraudulently property, obtain money, services, service loss, avoid payment, and ensure personal or business advantages. From the various meanings above, it can be concluded that fraud is an act committed by an individual or organization intentionally to cheat, hide, or gain an advantage in a condition where such action can harm other parties. According to ACFE (2014), fraud consists of 3 categories: asset misappropriations, corruption, and financial statement fraud.

Fraudulent financial statements can be interpreted as making the information displayed in the financial statements not show its original state so that the information makes the users of the financial statements make wrong decisions and suffer heavy losses. Arens et al. (2008) explained that fraudulent financial statements are deliberately deceptive statements, understatement of amounts, or disclosures to deceive users. Most cases of fraudulent financial statements involve deliberate misstatements of undisclosed amounts. Omitting amounts is rare, but companies can exaggerate revenue by omitting accounts payable and other liabilities. Although not so frequent, there are several notable cases of fraudulent financial statements involving adequate disclosure.
Sarwoko et al. (2001) explained that fraudulent financial statements are a misstatement or deliberate omission of the amount of disclosure in financial statements. Act/Law No. 20 of 2001 of Republic Indonesia states that fraudulent acts and actions that harm state finances are corruption types. Effendi (2006) mentioned three reasons for fraud in financial statements, namely: (1) manipulation, forgery, alteration of financial report notes and supporting documents of financial statements provided; (2) false material misinformation in financial statements statement, (3) Misuse of accounting standards on the amount, classification, presentation, and disclosure.

S.C.O.R.E are models that explain the factors of fraud. S.C.O.R.E are stand from the stimulus, capability, opportunity, rationalization, and ego (Vousinas, 2019). The following describes the elements of the S.C.O.R.E model:

1. **Stimulus (incentive).** Fraud is caused by high pressure, which is financial. There are different forms of stress. For example; due to the pressure to achieve goals (especially in times of crisis), the frustration of the work environment, professional ambitions, and the desire to achieve these goals as soon as possible, the Company has high financial needs or requires the Company to report higher performance as much as possible. Due to economic recession and pressure in the crisis years, the possibility of fraud has dramatically increased.

2. **Capability.** Ability refers to a person's traits and personality. Without proper personnel to implement the fraud's details, many scams will not occur, especially the multi-billion dollar financial statement fraud.

3. **Opportunity.** Opportunity is the ability to deceive. Criminals think they can commit and commit fraud without being discovered. It should be noted that participants believe that opportunities are real, which means they are not hidden. Fraud research emphasizes that the position and authority of individuals in the Company also provide opportunities.

4. **Rationalization.** Rationalization is an essential factor in the occurrence of fraud. In this kind of fraud, the perpetrator seeks justification for his behavior. For example, his behavior makes his family and relatives happy, and the Company has made considerable profits. Account for a small part of these profits.

5. **Ego.** Ego is a theory from psychology based on a person's criminal behavior view. the ego is a personality, which can help solve problems by mediating between the needs of the Company, the self, and the company environment. Self prevents us from taking action on every impulse of ourselves. Stotland (1977) in Vousinas (2019) asserted that one of the main motivations for cheating is power and a high degree of superiority.

**METHODS**

This research is quantitative. Such data uses annual financial reports and auxiliary data in the form of annual reports. Sampling techniques use purposeful sampling methods, and hypothesis testing uses logistic regression analysis techniques. The research sample is infrastructure companies listed on the Indonesian Stock Exchange (BEI) from 2013 to 2017. The following is a variable measurement table:
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Table 1. Variable Measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Proxy Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraudulent financial statements (Y)</td>
<td>Restatement = FFS</td>
<td>The dummy variable, if there is a restatement of the financial statements, is coded one, and if there is no change, it is coded 0</td>
</tr>
<tr>
<td>Stimulus (Xi)</td>
<td>Financial target = ROA</td>
<td>ROA = Net Profit Total assets</td>
</tr>
<tr>
<td>Capability (Xi)</td>
<td>Change of company directors = DCHANGE</td>
<td>The Dummy variable, if there is a change in the board of directors during the study period, is coded one, and if there is no change, it is coded 0</td>
</tr>
<tr>
<td>Opportunity (Xi)</td>
<td>Monitoring ineffective = BDOUT</td>
<td>BDOUT = The number of independent commissioners The total number of commissioners</td>
</tr>
<tr>
<td>Rationalization (Xi)</td>
<td>Change of external auditors = AUD</td>
<td>The dummy variable, if there is a change in the public accounting firm during the study period, is given code one and if not given code 0</td>
</tr>
<tr>
<td>Ego (Xi)</td>
<td>The number of CEO images displayed in the annual report = CEOPIC</td>
<td>Total number of CEO images displayed in the annual report</td>
</tr>
</tbody>
</table>

The logistic regression model is as follows:

\[ FFS_i = \beta_0 + \beta_1 ROA_i + \beta_2 DCHANGE_i + \beta_3 BDOUT_i + \beta_4 AUD_i + \beta_5 CEOPIC_i + \varepsilon \]

Description

FFS = Fraudulent financial statements
\( \beta_0 \) = Constants
\( \beta_1,2,3,4,... \) = Variable coefficients
ROA = Return on Asset
DCHANGE = Changing of directors
BDOUT = Ratio of independent commissioner’s board
AUD = Changing of Independent Auditor
CEOPIC = The Number of CEO’ picture in the annual report
\( \varepsilon \) = Error

RESULTS AND DISCUSSION

There are 60 infrastructure sector companies listed on the Indonesia Stock Exchange (IDX) in 2013-2017. However, according to the criteria of the purposive sampling method, there were 30 sample companies. The following is a research sample selection table:

Table 2. Research Sample Selection

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Infrastructure Sector Companies</td>
<td>60</td>
</tr>
<tr>
<td>Does not present a complete annual report and financial report</td>
<td>(30)</td>
</tr>
<tr>
<td>Total Companies studied</td>
<td>30</td>
</tr>
<tr>
<td>Total research sample during 2013-2017 (5 years)</td>
<td>150</td>
</tr>
</tbody>
</table>

Table 3. Hosmer and Lemeshow Test

<table>
<thead>
<tr>
<th>Step</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.816</td>
<td>8</td>
<td>0.160</td>
</tr>
</tbody>
</table>

The Hosmer and Lemeshow goodness-of-fit tests in Table 2 above show that the chi-square value is 11.816 and df is 8. This chi-square value does not show a significant value, which is 0.160 or \( p > 0.05 \) in probability \( \alpha = 0.05 \). Therefore, the null hypothesis cannot be rejected. The model can predict the observed value or because the model fits the observed data. It can be said that the model is feasible in identifying fraudulent financial statements of companies.
Table 4 shows the overall model assessment test (block number 0: beginning block).

<table>
<thead>
<tr>
<th>Iteration</th>
<th>-2 Log likelihood</th>
<th>Constant</th>
<th>ROA</th>
<th>BDOUT</th>
<th>AUD</th>
<th>DCHANGE</th>
<th>CEOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 0</td>
<td>167.593</td>
<td>-1.116</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result of the test for -2 log-likelihood on block number 0: beginning block is 167.593. The value of -2LogL is significant with the sig value equal to -1.116 (p < 0.05). This result means that the model rejects the null hypothesis, which means that only constants do not fit the data. The value -2LogL (block number = 1) is shown in the table 5 below:

Table 5.

<table>
<thead>
<tr>
<th>Iteration</th>
<th>-2 Log likelihood</th>
<th>Constant</th>
<th>ROA</th>
<th>BDOUT</th>
<th>AUD</th>
<th>DCHANGE</th>
<th>CEOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>161.227</td>
<td>-1.333</td>
<td>4.776</td>
<td>9.073</td>
<td>-1.16</td>
<td>0.302</td>
<td>-0.527</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>161.227</td>
<td>-1.130</td>
<td>3.970</td>
<td>0.09</td>
<td>-0.27</td>
<td>-0.197</td>
<td>-0.033</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>161.227</td>
<td>-1.227</td>
<td>4.736</td>
<td>0.079</td>
<td>-0.09</td>
<td>-0.159</td>
<td>-0.056</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td>161.227</td>
<td>-1.233</td>
<td>4.776</td>
<td>0.071</td>
<td>-0.09</td>
<td>-0.159</td>
<td>-0.055</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5</td>
<td>161.227</td>
<td>-1.233</td>
<td>4.777</td>
<td>0.071</td>
<td>-0.09</td>
<td>-0.159</td>
<td>-0.027</td>
</tr>
</tbody>
</table>

Table 5 shows that the value of -2 Log-Likelihood (-2LogL) in the block number = 1 after entering the independent variables, namely ROA, BDOUT, AUD, DCHANGE, and CEOPIC becomes 161.227. The following is the value of -2 Log-Likelihood (-2LogL), which can be seen clearly in Table 6.

As shown in table 6 the initial -2LogL value (block number = 0) is 167.593 and the next -2LogL (block number = 1) is 161.227. This result means that there is a decrease in the value of -2 LogL of 6.366. The occurrence of a decrease from this value of -2 LogL indicates a better regression model or, in other words, hypothesized.

Table 7 Determination Coefficient Test Results

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>161.227</td>
<td>0.042</td>
<td>0.062</td>
</tr>
</tbody>
</table>

Cox and Snell R² and Nagelkerke R² above show that each of these tests has a value of 0.042 and 0.062. Therefore, these results indicate that the dependent variable's variability is 6.2%, which can be explained by the independent variable's variability. This result means that 93.8% of the dependent variable's variability can be explained by other independent variables outside the research model.

Table 8 Logistic Regression Coefficient Test Results

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E</th>
<th>Wald</th>
<th>Df</th>
<th>Sig</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>4.777</td>
<td>2.238</td>
<td>4.555</td>
<td>1</td>
<td>0.033</td>
<td>118.698</td>
</tr>
<tr>
<td>DCHANGE</td>
<td>1.59</td>
<td>0.868</td>
<td>1.767</td>
<td>1</td>
<td>0.190</td>
<td>0.001</td>
</tr>
<tr>
<td>BDOUT</td>
<td>-0.07</td>
<td>-0.522</td>
<td>0.019</td>
<td>1</td>
<td>0.892</td>
<td>1.074</td>
</tr>
<tr>
<td>AUD</td>
<td>0.008</td>
<td>0.418</td>
<td>0.001</td>
<td>1</td>
<td>0.992</td>
<td>4.010</td>
</tr>
<tr>
<td>CEOPIC</td>
<td>-0.025</td>
<td>0.223</td>
<td>0.013</td>
<td>1</td>
<td>0.911</td>
<td>0.975</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.140</td>
<td>0.905</td>
<td>2.397</td>
<td>1</td>
<td>0.122</td>
<td>2.46</td>
</tr>
</tbody>
</table>
The regression model formed based on table 8 is as follows:

\[ \text{FFS} = -1.402 + 4.777 \text{ROA} + 0.159 \text{DCHANGE} + 0.071 \text{BDOUT} + 0.009 \text{AUD} - 0.025 \text{CEOPIC} + \varepsilon \]

From the regression equation above, it can be explained as follows:

1. A constant value of -1.402 indicates that if all the free variables are zero, the Company will experience fraudulent financial statements amounting to -1.402.
2. The ROA variable's regression coefficient value is 4.777, meaning that each increase of one unit of the ROA variable will increase the fraudulent financial statements of 4,777, assuming the other independent variables remain.
3. The regression coefficient value of the DCHANGE variable is 0.159, which means that each increase of one unit of the DCHANGE variable will reduce the fraudulent financial statements of .159, assuming the other independent variables remain.
4. The regression coefficient value of the AUD variable is 0.071, meaning that every increase of one unit of the AUD variable will reduce the fraudulent financial statements by 0.071, assuming the other independent variables are fixed.
5. The regression coefficient value of the CEOPIC variable is -0.025, meaning that each increase of one unit of the CEOPIC variable will increase the fraud in financial statements by -0.025 with the assumption that the other independent variables are fixed.

The logistic regression results test the significance of the stimulus measures on the detection of fraudulent financial statements. It shows a positive direction with significant value, with ROA alternative stimulus measures with financial goals. These results can be seen from the significance probability value of ROA, which is equal to 0.033 or \( p < 0.05 \) in probability \( \alpha = 0.05 \). It can be concluded that the stimulus can affect fraudulent financial statements or accept hypothesis 1 or H1 as acceptable.

These results are by the results of research by Setiawati and Baningrum (2018), Pratiwi and Nurbaiti (2018), and Puspitha and Yasa (2018). However, these results are not supported by research by Bawekes et., Al (2016); Quraini and Rimawati (2018); Nindito (2018); Agustina and Pratomo (2019), and Tessa and Harto (2016), where stimulus with financial targets has no significant effect on fraudulent financial statements.

Return on Asset (ROA) is a measure of the Company's operating performance used to identify how efficient the use of assets is (Skousen et al., 2009). Setiawati and Baningrum (2018) say that managers will be more ambitious so that whatever means will be taken to get the target they should. If the lower the ROA value indicates, the lower the profit generated so that the Company's performance looks terrible, the possibility of financial statement fraud is relatively high.

The logistic regression results to test the significance of the effect of capability on report fraud show that capacity has a positive direction with a little value. Capability is proxied by a change of directors or DCHANGE. These results can be seen from the DCHANGE significance probability value of 0.797 or \( p > 0.05 \) in probability \( \alpha = 0.05 \). It can be concluded that capability cannot affect fraudulent financial statements or reject hypothesis 2 or H2.

The Board of Directors is fully responsible for carrying out its duties in the Company's interests in achieving its aims and objectives. The Board of Directors is also obliged to ensure that all the Company's assets have been used according to their intended use in the Company's
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...interests and the Company's Shareholders The change of directors is not a factor in detecting fraudulent financial statements.

These results support the research of Baweke et al. (2018), Quraini and Rimawati (2018); Nindito (2018); and Agustina and Pratomo (2019). However, these results do not support the research conducted by Puspihaa and Yasa (2018), where directors' change has a significant effect on fraudulent financial statements.

The logistic regression results to test the significance of opportunity on report fraud show a positive direction with little value. Opportunity is proxied by effective monitoring, namely the proportion of independent commissioners in a board structure in a company or BDOUT. These results can be seen from the significant value of 0.892 or (p> 0.05) in the probability α 0.05. It can be concluded that the opportunity cannot affect fraudulent financial statements or reject hypothesis 3 or H3.

These results support the research of Tessa and Harto (2016), Nindito (2018); Setiawati and Baningrum (2018); Quraini and Rimawati (2018); and Pratiwi and Nurbaity (2018). However, this study's results do not support Puspihaa and Yasa (2018); Agustina and Pratomo (2019), where ineffective monitoring with the proportion of the commissioners' board has a significant effect on fraudulent financial statements.

Adequate supervision can minimize fraud. An independent board of commissioners in a company is one factor in increasing the Company's operational supervision. The independent board of commissioners will supervise objectively, independently, away from certain parties' intervention to not trigger managers to commit fraud in financial reports (Setiawati and Baningrum, 2018).

The logistic regression results for the significance test of rationalization on report fraud show a positive direction with little value. Rationalization is proxied by an audit opinion or AUD. These results can be seen from the significant value of 0.999 or (p> 0.05) in the probability α 0.05. It can be concluded that rationalization cannot affect fraudulent financial statements or reject hypothesis 4 or H4.

These results support research conducted by Setiawati, Baningrum (2018); Agustina and Pratomo (2019); Nindito (2018); Quraini and Rimawati (2018); Baweke et al. (2018) and Pratiwi and Nurbaity (2018). This study's results do not support Puspihaa and Yasa (2018) research, which states that rationalization has a significant effect on fraudulent financial statements.

Rationalization is a variable that is difficult to measure from the fraud model (Skousen et. Al., 2009). The auditor's inability to detect irregularities that occur in the financial statements affects the audit opinion results. The accrual basis of accounting allowed by the Financial Accounting Standards allows management to modify the financial statements to freely produce the desired profit.

The logistic regression results for the significance test of the effect of ego on report fraud show a negative direction with little value. Ego is represented by the Number of CEO's Pictures or CEOPIC. These results can be seen from the significant value of 0.911 or (p>0.05) in the probability α 0.05. It can be concluded that rationalization cannot affect fraudulent financial statements or reject hypothesis 5 or H5.

These results support the research of Setiawati and Baningrum (2018), Agustina and Pratomo (2019); Nindito (2018); Quraini and Rimawati (2018); and Pratiwi and Nurbaity (2018).
However, in contrast to the research of Bawekes et al. (2018), Puspithaa and Yasa (2018), and Tessa and Harto (2016), who state that CEOPIC affects financial statement fraud. The CEO's photo emblazoned in the Company's annual report is the transparency of who is in charge of and is responsible for the leadership of the activities carried out by the Company. The more CEOs of the Company, the more ideas for running the Company. If the idea is mutually beneficial to each other and the Company, it is hoped that fraud will not arise in the preparation of the Company's financial statements.

CONCLUSION

The stimulus has a significant positive effect on fraudulent financial statements. Capability, opportunity, and rationalization have a positive and insignificant effect on fraudulent financial statements. Capability, opportunity, and rationalization cannot affect fraudulent financial statements. Ego has a not positive or negative insignificant effect on fraudulent financial statements.

Further research can add proxy variables such as external auditors' quality, institutional share ownership, and audit opinions covered by the fraud S.C.O.R.E. model. Elements of fraud, such as rationalization and capability, are challenging to measure using quantitative methods alone. For that, future research can use various methods, like mixed method or qualitative method. Further research can also be developed into the public funding sector, such as the government or social sector.

REFERENCES


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Republik Indonesia, Undang- Undang Nomor 31 Tahun 1999 sebagaimana yang diubah dengan Undang- undang Nomor 20 Tahun 2001tentang Tindak Pidana Korupsi.

