

## Analysis of Fraud Factors in Financial Statement Fraud

Noer Sasongko\*

Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Surakarta, Indonesia

Anna Nurmulina

Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Surakarta, Indonesia

Dahlia Fernandez

Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia

### Abstract

The aim of this research is to analyze the influence of Fraud Pentagon in detecting the phenomenon of financial statement fraud. In this research, there are 5 variables that are hypothesized to affect fraud. These variables are derived from the 5 elements of the fraud pentagon, namely Pressure, Opportunity, Rationalization, Competence and Arrogance. The population of this research were property and real estate companies listed in Indonesia Stock Exchange (IDX) 2014-2016. The research used the purposive sampling technique and found 35 companies, within 3 years of observation. Thus, the total number of samples studied was 105. In this research, the hypotheses were analyzed using logistic regression analysis. The results indicated that Pressure, Opportunity, Rationalization, Arrogance have an influence on financial statement fraud. Meanwhile, Competence does not have influence on financial statement fraud.

**Keywords:** Fraud pentagon; Financial statement fraud; Opportunity; Competence; Arrogance; Pressure; Rationalization.



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### 1. Introduction

Companies can present the increase of their performance in a certain period of time through financial report. However, the performance result written in the financial reports are occasionally only aimed to receive a "good" impression from various parties. The impulse and motivation to always be seen as good by various parties often forces companies to manipulated certain parts of the report, hence in the end presenting information that is not factual and will certainly harm many parties (Dorminey *et al.*, 2012; Girgenti and Hedley, 2011; N'Guilla *et al.*, 2018; Tessa and dan Harto, 2016).

Deeds and actions conducted intentionally, consciously, knowingly and willingly in misusing everything that is jointly owned, such as: company and state resources for personal enjoyment then presenting false information to cover up the misuse of resources is often referred to as fraud, whereas financial statement fraud itself is defined as fraud that is committed by the management of a company in the form of intentional misstatement or omissions in the financial statement in terms of material hence affecting the decisions to be taken by involved parties (Caesar, 2017; Hogan *et al.*, 2008; Kassem and Higson, 2012; Peterson and Buckhoff, 2004; Stalebrink and Sacco, 2007).

The practice of fraudulent financial reporting is no longer something foreign for the society. Many parties feel harmed because they were given false information. Losses may be felt more by investors because the decision they make are irrational and affect the failure to obtain return from their investment (Andon and Free, 2012; Andon *et al.*, 2015). Fraud will not only damage the trust between management and investors, but also will spoil the values of accounting itself (Albrecht *et al.*, 1984; Cressey, 1953; Tessa, 2016).

In general, fraud will always occur when there is no prior prevention or detection (Cieslewicz, 2010; Free *et al.*, 2007; Hogan *et al.*, 2008). One theory used to assess fraud is Crowe's Fraud Pentagon Theory. The Fraud model, found by Crowe, consists of five indicator elements, namely pressure, opportunity, rationalization, competence, and arrogance (Akomea-Frimpong *et al.*, 2016; Pedneault *et al.*, 2012; Vousinas, 2019).

The result of this research on financial statement fraud found inconsistent findings, such as Tiffani and dan Marfuah (2015); Yesiariani and dan Rahayu (2016); Aprilia (2017); Devy *et al.* (2017); Haryono (2017); Tessa and dan Harto (2016), thus there needs to be further research related to financial statement fraud and the fraud pentagon to find consistency in the result.

### 2. Research Method

#### 2.1. Population, Sample, And Data Sampling Technique

The population of this research was all property and real estate companies registered in BEI from the period of 2014 – 2016. The data sampling technique used was selected sampling (non-probability sampling) which was purposive sampling. The sample used in this research were property and real estate companies registered in Indonesian Stock Exchange which were chosen in accordance with the method used. The data sampling method used was purposive sampling with the following criteria: (1) Property and real estate companies that have been

\*Corresponding Author

registered in the Indonesian Stock Exchange continuously through the period of 2014 – 2016. (2) Companies that present full annual reports for all variables of the research in the IDX (Indonesian Stock Exchange) website continuously as long as the observation period. (3) Property and real estate companies that issue audited financial reports as of December 31. (4) Companies that publish their annual financial reports stated in IDR (Rp) in the ISE website throughout the period of 2014 – 2016. (5) Companies that have complete data related to the variables used in the research.

**Table-1.** Data Sampling Criteria

| No | Description  | 2014 | 2015 | 2016 | Total |
|----|--|------|------|------|-------|
| 1  | Property and real estate companies registered in the Indonesian Stock Exchange                             | 44   | 44   | 44   | 132   |
| 2  | Property and Real Estate companies that do not issue full annual reports throughout the observation period | (8)  | (8)  | (8)  | (24)  |
| 3  | Property and Real Estate Companies that do not publish their audited financial reports as of December 31   | (1)  | (1)  | (1)  | (3)   |
| 4  | Property and Real estate Companies that do not publish their financial reports in IDR (Rp)                 | (0)  | (0)  | (0)  | (0)   |
|    | <b>Total</b>   | 35   | 35   | 35   | 105   |

Source: BEI Data

## 2.2. Operational Definition and Variable Measurement

### 2.2.1. Dependent Variable

The dependent variable in this research is Financial Statement Fraud (DFSF) which is measured by the Beneish M-score model ratio ([Beneish, 1999](#)),  $DFSF = M\text{-Score}$ . After calculating the eight ratios, it is then formulated into the Beneish M-Score model. If the Beneish M-Score is higher than -2.22, it is categorized as a company that commits fraud. On the other hand, if the score is lower than -2.22, then it is categorized as a company that does not commit fraud (non-fraud). Hereafter companies that commit financial statement fraud are coded as 1 and those that do not commit financial statement fraud are coded as 0.

$$DFSF = M\text{ Score}$$

$$M\text{ Score} = \alpha + \beta_1 DSRI + \beta_2 GMI + \beta_3 AQI + \beta_4 SGI + \beta_5 DEPI + \beta_6 SGAI + \beta_7 LEVI + \beta_8 TATA$$

### 2.2.2. Independent variable

#### a) Pressure

Pressure (PR) is proxy to Financial Stability (FS), which is the condition that describes the company's financial condition as stable. PR is calculated using the formulation:

$$PR = FS$$

$$FS = \frac{\text{Total Aset (t)} - \text{Total Aset (t-1)}}{\text{Total Aset (t-1)}} \dots \dots \dots \quad (\text{Siddiq et al., 2017})$$

#### b) Opportunity

Opportunity (OP) is proxy to Effective Monitoring (EM), which is the condition where the company has good internal control. OP is calculated using the formula:

$$OP = EM$$

$$EM = \frac{\text{Jumlah Dewan Komisaris Independen}}{\text{Jumlah total dewan komisaris}} \dots \dots \dots \quad (\text{Haryono, 2017})$$

#### c) Rationalization

Rationalization (DRA) is proxy to Changes in auditor, RA is calculated using the formulation:

$$DRA = CIA$$

Changes in auditor (CIA) is the substitution for independent auditor. D.CIA is calculated using a dummy variable which is categorized into 2 types of companies, namely companies that made changed their Public Accountant Office throughout the period of 2014 – 2016 were coded 1 (one) and companies that did not change their Public account Office throughout the period of 2014 – 2016 were coded 0 (zero) ([Siddiq et al., 2017](#)).

#### d) Competence

Competence (DCO) is proxy to Change of Directors (COD) which is the change of directors ( $DCO = COD$ ). COD is calculated using a dummy variable that is categorized into 2 types of companies, namely companies that made changes in directors were coded 1 (one) and companies that did not make changes in directors were coded 0 (zero) ([Tessa and dan Harto, 2016](#)).

#### e) Arrogance

Arrogance (AR) is proxy to the Frequency Number of the CEO's Picture (CEOPIC) which is the number of CEO Profile within the annual report (AR = CEOPIC). CEOPIC is calculated by the total number of pictures of CEOs posted on the annual report (Tessa and dan Harto, 2016).

### 2.3. Analysis Method

The analysis method used in this research is the Logistic Regression Analysis. Logistic regression is regression which is used to test whether the probability of the occurrence of the dependent variable can be predicted by the independent variable. This analysis technique does not require normality tests or classic data assumption test in its independent variables (Ghazali, 2011). The choice of this model was based on the reason that the dependent data used in this research is non-metric, while the independent data consists of metric and non-metric data.

$$DFSF = \alpha + \beta_1 PR + \beta_2 OP + \beta_3 DRA + \beta_4 DCO + \beta_5 AR + \epsilon$$

Where,

DFSF: *Dummy Financial Statement Fraud*. With the code 1 (one) for companies that committed financial statement fraud, and 0 (zero) for companies that did not commit financial statement fraud.

|            |                                |
|------------|--------------------------------|
| $\alpha$   | : constants                    |
| $\beta$    | : coefficient variables        |
| PR         | : <i>Pressure</i>              |
| OP         | : <i>Opportunity</i>           |
| DRA        | : <i>Dummy Rationalization</i> |
| DCO        | : <i>Dummy Competence</i>      |
| AR         | : <i>Arrogance</i>             |
| $\epsilon$ | : error term                   |

## 3. Results

### 3.1. Result of Coefficient Determination Test

1) Assessing the Overall Model (Overall Model Fit test)

Based on the feasibility test by focusing on the numbers on the -2 Log Likelihood Block Number = 0 and -2 Log Likelihood Block Number = 1. The initial number of -2 Log Likelihood Block Number = 0 was 140.482 whereas the number of -2 Log Likelihood Block Number = 1 was 104.206.

2) Result of the Coefficient Determination Test (Nagel Karke R2)

The value of Nagel Karke R2 is 0.3996, thus the variability of the described dependent variable can be described by the independent variable which is 39.6%, whereas the rest amounts to 60.4% and is described by other variables outside of the research model.

### 3.2. Result of the Regression Model Feasibility Test

The value of Hosmer and Lemeshow's test was 0.498. From this result, it can be inferred that H0 is accepted, which is due to the significance value obtained is higher than 0.05. Due to the significance value being far above 0.05, thus it can be concluded that the model is feasible to predict the observation value.

### 3.3. Classification Test

The number of samples that did not commit fraud is  $54 + 10 = 64$  companies. Those that truly did not commit fraud are 54 companies and those that should not have committed fraud are 10 companies. The number of companies that committed fraud is  $17 + 24 = 41$ . Those that truly committed fraud are 24 companies and those that should have committed fraud but did not are 17 companies. Based on this description the overall percentage is  $(54+24)/105 = 74.3\%$ .

## 4. Discussion

Table-2. Logistic Regression Result

| Variable | B       | S.E.  | Wald   | Df | Sig.    | Exp(B) |
|----------|---------|-------|--------|----|---------|--------|
| PR       | -4.992  | 2.198 | 5.159  | 1  | .023**  | .007   |
| OP       | -4.970  | 2.805 | 3.139  | 1  | .076*   | .007   |
| DRA      | -16.771 | 4.437 | 14.285 | 1  | .000*** | .000   |
| DCO      | .772    | .494  | 2.449  | 1  | .118    | 2.165  |
| AR       | .302    | .169  | 3.208  | 1  | .073*   | 1.353  |

Source: Data SPSS 20

Independent variable: PR, OP, DRA, DCO, AR.

Dependent variable: DFSF

Where,

\*\*\* = significance level 1%,

\*\* = significance level 5%,

\* = significance level 10%

#### **4.1. The Influence of Pressure on Financial Statement Fraud**

The variable Pressure (PR) shows a coefficient regression of -4.992 with a significance level of 0.023 which is less than  $\alpha = 0.05$ . Since the significance level is less than  $\alpha = 0.05$ , then hypothesis 1 is accepted. This study proves that pressure influences financial statement fraud with a significance  $\leq 0.05$ . Based on the result of the test, it is proven that pressure effect the conduct of financial statement fraud because management is required to meet the target even in unstable financial conditions and under the pressure from stakeholders ([Putriasih et al., 2016](#)).

#### **4.2. The Influence of Opportunity on Financial Statement Fraud**

The variable Opportunity (OP) shows a coefficient regression of -4.970 with a significance level of 0.076 which is less than  $\alpha = 0.1$ . Since the significance level is less than  $\alpha = 0.1$ , then hypothesis 2 is accepted. This study proves that opportunity influences financial statement fraud with a significance  $\leq 0.1$ . Based on the result of the test, it is proven that the smaller the chances of a company to commit financial statement fraud, the less opportunity it gives for parties who want to take advantage to do so ([Tiffani dan Marfuah, 2015](#)).

#### **4.3. The Influence of Rationalization on Financial Statement Fraud**

The variable Rationalization (DRA) shows a coefficient regression of -16.771 with a significance level of 0.000 which is less than  $\alpha = 0.01$ . because the level of significance is less than  $\alpha = 0.01$ , then hypothesis 3 is accepted. This study proves that rationalization influences financial statement fraud with a significance level  $\leq 0.01$ . Based on the result of the test, it is proven that management that has high level of rationalization will effect in the conduct of financial statement fraud ([Putriasih et al., 2016](#)). Rationalization is needed to justify their illegal action in order to maintain their identity as someone trustworthy ([Crowe, 2011](#)).

#### **4.4. The Influence of Competence on Financial Statement Fraud**

The variable Competence (DCO) shows the coefficient regression of 0.772 with a significance level of 0.118 which is higher than  $\alpha = 0.1$ . Since the significance level is higher than  $\alpha = 0.1$ , then hypothesis 4 is rejected. This study proves that competence does not influence financial statement fraud. Based on the result of the test, it is proven that fraud is not always committed when a person has the competence for fraud. This is because management does not have high level of ego and confidence that their action will not be detected ([Yesiariani dan Rahayu, 2016](#)).

#### **4.5. The Influence of Arrogance on Financial Statement Fraud**

The variable Arrogance (AR) shows the coefficient regression of 0.302 with a significance level of 0.073 which is less than  $\alpha = 0.1$ . Since the significance level is less than  $\alpha = 0.1$ , then hypothesis 5 is accepted. This study proves that arrogance influences financial statement fraud with a significance level  $\leq 0.1$ . Based on the result of the test, it is proven that high level of arrogance can cause the conduct of fraud because the arrogance and superiority of a CEO will make a CEO feel that no internal control applies on them and their position ([Tessa dan Harto, 2016](#)).

### **5. Conclusion**

Based on the result and discussion given in the previous section, it can be concluded that: the result of logistic regression shows that pressure influences financial statement fraud with a significance level  $\leq 0.05$ ; Opportunity influences financial statement fraud with a significance level  $\leq 0.1$ ; Rationalization influences financial statement fraud with a significance level  $\leq 0.01$ ; Arrogance influences financial statement fraud with a significance level  $\leq 0.1$ ; whereas from the logistic regression test it was found that Competence does not influence financial statement fraud.

This research has several limitations, among others: (1) This research only focused on one type of industry which is the field of property and real estate that is registered in the Indonesian Stock Exchange. (2) Based on the result of the Nagel Karke R Square which is 0.396 infers that the independent variables in this research can only describe 39.6% of the dependent variables while the rest, 60.4%, is described by other variables not used in this research.

From the result of the research and based on the above explanation, suggestions that can be conveyed are: (1) Future studies should have additional company samples, such as from the sector of property and real estate and the sector of finance, then compare the tendency of fraud in each sub sector of types of industries thus the result of the study can be used by the parties in need of the information. (2) Future research might want to conduct a case study analysis or qualitative research to get a better view and explanation on the study ([Fernandez et al., 2017;2018; Zainol et al., 2017](#)). (3) Future studies are hoped to add independent variables as predictors of fraudulent actions such as profit management.

### **References**

- Akomea-Frimpong, I., Andoh, C. and Ofosu-Hene, E. D. (2016). Causes, effects and deterrence of insurance fraud: evidence from Ghana. *Journal of Financial Crime*, 23(4): 678–99.
- Albrecht, W. S., Romney, M. B., Howe and Keith, R. (1984). *Deterring fraud: The internal auditor's perspective*. 1st edn: Institute of Internal Auditors: Altamonte Springs.

- Andon, P. and Free, C. (2012). Auditing and crisis management: the 2010 Melbourne Storm salary cap scandal. *Accounting, Organizations and Society*, 37(3): 131-54.
- Andon, P., Free, C. and Scard, B. (2015). Pathways to accountant fraud: Australian evidence and analysis. *Accounting Research Journal*, 28(1): 10–44.
- Aprilia (2017). Analisa Pengaruh Fraud Pentagon Terhadap Kecurangan Laporan Keuangan Menggunakan Beneish Model pada Perusahaan yang Menerapkan Asean Corporate Governance Scorecard. Universitas Trisakti Jakarta. *Jurnal Akuntansi Riset*, 6(1): 96-126.
- Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal*, 55(5): 24-36.
- Caesar, M. (2017). *Analisis Fraud Diamond dalam Mendeteksi Financial Statement Fraud (Studi pada Perusahaan Property, Real Estate and Building Construction yang Terdaftar di Bursa Efek Indonesia Tahun 2011-2015)*. Fakultas Ekonomi dan Bisnis Universitas Islam Negeri Syarif Hidayatullah: Skripsi. Jakarta.
- Cieslewicz, J., 2010. "The fraud square: Societal influences on the risk of fraud." In *Conference Proceedings, 2010 American Accounting Association Annual Meeting, San Francisco*.
- Cressey, D. (1953). *Other people's money: A study in the social Psychology of Embezzlement*. Free Press: Glencoe, IL.
- Crowe, H. (2011). *Why the fraud triangle is no longer enough*. Horwath, Crowe LLP.
- Devy, K. L. S., Wahyuni, M. A. and Sulindawati, N. L. G. E. (2017). Pengaruh Frequent Number of CEO's Picture, Pergantian Direksi Perusahaan, dan External Pressure dalam Mendeteksi Fraudulent Financial Reporting, Studi Empiris pada Perusahaan Farmasi yang Listing di BEI Periode 2012-2016. *E-journal SI Akuntansi Universitas Pendidikan Ganesha*, 8(2).
- Dorminey, J., Fleming, A. S., Kranacher, M. J. and Riley, R. A. J. (2012). The evolution of fraud theory. *Issues in Accounting Education*, 27(2): 555-79.
- Fernandez, D., Zainol, Z. and Ahmad, H. (2017). The impacts of ERP systems on public sector organizations. *Procedia Computer Science*, 111: 31-36.
- Fernandez, D., Zainol, Z. and Ahmad, H. (2018). An investigation of challenges in enterprise resource planning (ERP) implementation: The case of public sector in Malaysia. *International Journal of Supply Chain Management*, 7(3): 113-17.
- Free, C., Macintosh, N. and Stein, M. (2007). The organizational fraud triangle: leadership, culture and control within Enron. *Ivey Business Journal*, 71(1): 1-10.
- Ghazali, I. (2011). *Analisis Multivariate dengan Program IBM SPSS 20 Update PLS Regresi Edisi 6*". Badan Penerbit Universitas Diponegoro: Semarang.
- Girgenti, R. H. J. D. and Hedley, T. P. (2011). *Managing the risk of fraud and misconduct*. McGrawHill: The USA.
- Haryono, M. E. (2017). *Analisis Fraud Triangle dalam Mendeteksi Financial Statement Fraud (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Periode 2012-2014)*. Fakultas Ekonomi dan Bisnis Universitas Muhammadiyah Surakarta: Skripsi. Surakarta.
- Hogan, C. E., Rezaee, Z., Riley, R. A. and Jrand, V. U. K. (2008). Financial statement fraud: Insights from the academic literature. *Auditing: A Journal of Practice and Theory*, 27(2): 231-52.
- Kassem, R. and Higson, A. (2012). The new fraud triangle model. *Journal of Emerging Trends in Economics and Management Sciences*, 3(3): 191.
- N'Guilla, S. A., Basiruddin, R., Abdul Rasid, S. Z. and Husin, M. M. (2018). Understanding fraud in Malaysian SMEs. *Journal of Financial Crime*
- Pedneault, S., Silverstone, H., Rudewicz, F. and Sheetz, M. (2012). *Forensic accounting and fraud investigation for non-experts*. John Wiley & Sons.
- Peterson, B. K. and Buckhoff, T. A. (2004). Anti-fraud education in academia. *Advances in Accounting Education Teaching and Curriculum Innovations*, 6: 45-67.
- Putriasih, K., Herawati, N. N. T. and Wahyuni, M. A. (2016). Analisis Fraud Diamond dalam Mendeteksi Financial Statement Fraud: Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2013-2015. Universitas Pendidikan Ganesha. *E-Journal SI Akuntansi Universitas Pendidikan Ganesha*, 6(3).
- Siddiq, F. R., Achyani, F. and dan Zulfikar (2017). *Fraud Pentagon dalam Mendeteksi Financial Statement Fraud Seminar Nasional dan The 4th Call for Syariah Paper*. Universitas Muhammadiyah Purwokerto.
- Stalebrink, O. J. and Sacco, J. F. (2007). Rationalization offinancial statement frauding overnment: An Austrian perspective. *Critical Perspectives on Accounting*, 18(4): 489-507.
- Tessa (2016). *Fraudulent Financial Reporting: Pengujian Teori Fraud Pentagon pada Sektor Keuangan dan Perbankan di Indonesia*. Fakultas Ekonomi dan Bisnis Universitas Diponegoro: Semarang.
- Tessa and dan Harto, P. (2016). *Fraudulent Financial Reporting: Pengujian Teori Fraud Pentagon pada Sektor Keuangan dan Perbankan di Indonesia*. Simposium Nasional Akuntansi (SNA) XIX. Universitas Diponegoro: Lampung.
- Tiffani, L. and dan Marfuah (2015). *Deteksi Financial Statement Fraud dengan Analisis Fraud Triangle pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia*. Simposium Nasional Akuntansi (SNA) XVIII. Universitas Islam Indonesia: Medan.
- Vousinas, G. L. (2019). Advancing theory of fraud: The S.C.O.R.E. Model. *Journal of Financial Crime*.
- Yesiariani, M. and dan Rahayu, I. (2016). *Analisis Fraud Diamond dalam Mendeteksi Financial Statement Fraud (Studi Empiris pada Perusahaan LQ-45 yang Terdaftar di Bursa Efek Indonesia Tahun 2010 - 2014)*. Simposium Nasional Akuntansi (SNA) XIX. Universitas Islam Indonesia: Lampung.

- Zainol, Z., Fernandez, D. and Ahmad, H. (2017). Public sector accountants' opinion on impact of a new enterprise system. *Procedia Computer Science*, 124: 247-58.