www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

# Analysis of Fraudulent Financial Reporting Using the Fraud Triangle (Study Case: PT Tiga Pilar Sejahtera Tbk)

**Maulida Salmi Utie[1], Siti Nurwahyuningsih Harahap[2]**
[1,2]*Department of Accounting, Universitas Indonesia*
*maulida.salmi02@ui.ac.id*

**Abstract**

*This study aims to analyze PT Tiga Pilar Sejahtera Food Tbk (AISA)'s fraudulent financial reporting (FFR) in relation to the fraud triangle theory. This study uses a quantitative approach by analyzing secondary data obtained from AISA's financial statements during 2003-2017. The analysis will be carried out using Excel software to produce regression and variable correlation analyses. The research method uses the Beneish M-score model as FFR proxy and SAS No.99 fraud risk factor as fraud triangle proxies (pressure, opportunity, rationalization). The test results show that pressure, opportunity, and rationalization significantly influence AISA's scandal. The pressure factor is measured by financial target and external pressure indicators. The nature of industry indicator measures the opportunity factor, and the audit reports indicator measures the rationalization factor.*

Keywords
Beneish M-score; fraud triangle; fraudulent financial reporting

## I. Introduction

In 2019, PT Tiga Pilar Sejahtera Food Tbk (AISA) faced a fraudulent financial reporting scandal. This scandal was revealed from the results of an investigative audit of AISA's financial statements for December 31, 2017, by Ernst & Young (EY, 2019), which reported allegations of inflating assets in several accounting posts. This indicates fraudulent financial reporting (FFR) carried out by AISA, where there is a material misstatement in the financial statements whose done by management intentionally (Association of Certified Fraud Examiners (ACFE), 2020). This scandal continued with the extension of the suspension of AISA shares by the Indonesia Stock Exchange (IDX) and lawsuits filed against the management of AISA for the fraudulent act. This scandal damaged the reputation and dropped the value of AISA's shares which ultimately harmed investors and shareholders.

The research of Skousen et al. (2009) stated that fraudulent financial reporting (FFR) is a significant problem, so the audit profession should be able to detect these actions before they become scandals that harm many parties. Skousen et al. (2009) developed a measurement proxy to detect factors that influence FFR. This proxy is the result of the development of the fraud risk factor framework developed by Cressey (1953) and SAS No. 99 published by AICPA (2002). The adoption of Cressey and SAS No.99 fraud risk factor framework is used to detect fraudulent behavior influenced by three factors: pressure, opportunity, and rationalization. These three factors are generally referred to as the fraud triangle theory (Skousen et al., 2009).

.

Based on this background, this study focuses on finding the fraud factor which is the reason for the fraudulent financial reporting practices carried out by AISA's management. This study defines the fraud factor using the fraud triangle proxies developed by Skousen et al. (2009) and the M-score model (Beneish, 1999) as FFR proxies. This research model refers to the research conducted by Demetriades & Owusu-Agyei (2021). The analysis uses a case study and a quantitative approach to secondary data from the AISA Financial Statements from 2003 to 2017. The significant difference in this study is the use of fraud triangle proxy with the M-score model, while previous studies used the fraud diamond proxy. In addition, no research explains the triggering factors of AISA's FFR scandal

## II. Review of Literature

### 2.1 Fraudulent Financial Reporting

Fraudulent financial reporting (FFR) is an act of fraud committed by management intentionally and causes a material misstatement of information in financial statements published by the company (ACFE, 2020). Misstatements in financial statements can occur due to two factors, which are fraud and error. The difference between the two factors lies in the intentionally (fraud) or unintentionally (errors) committed by management. *The American Institute of Certified Public Accountants* (AICPA) (2002) published *Statement of Auditing Standards* No. 99 (SAS No. 99), which explains that management has a unique capability to commit fraud because it is in a position that allows it to manipulate accounting records directly or indirectly and present incorrect financial information. Therefore, auditors need to implement valuable procedures for examining and evaluating information in the corporate environment. These procedures must assist the auditor in identifying facts and circumstances that indicate pressures, opportunities, and rationalizations faced by management. Pressure, opportunity, and rationalization are fraud risk factors developed by Cressey (1953). These three factors are generally referred to as the fraud triangle theory, where:

- Pressure is the impetus that triggers management to commit fraud. An example is a high pressure felt by management to meet financial targets set by the director.
- Opportunity is a condition that allows someone to commit fraud. An example is a capability that allows a company to dominate a particular industry to control the terms or conditions for suppliers and consumers.
- Rationalization is an attitude or ethical value that encourages someone to justify dishonest actions consciously. An example is an excessive interest in maintaining or increasing share prices which encourages the commissioners, managers, and employees to justify fraudulent actions.

Financial statements are basically a source of information for investors as one of the basic considerations in making capital market investment decisions and also as a means of management responsibility for the resources entrusted to them (Prayoga and Afrizal 2021). Financial performance is a measuring instrument to know the process of implementing the company's financial resources. It sees how much management of the company succeeds, and provides benefits to the community. Sharia banking is contained in the Law of the Republic of Indonesia No.21 of 2008 article 5, in which the Financial Services Authority is assigned to supervise and supervise banks. (Ichsan, R. et al. 2021)

### 2.2 Hypothesis

This study uses three factors based on the fraud triangle theory that affect fraudulent financial reporting (FFR): pressure, opportunity, and rationalization. Cressey (1953) developed these three classified factors, later adopted by the AICPA (2002) and outlined as a fraud risk factor framework in the SAS No. 99 issue.

SAS No.99 explains that the indicator that drives pressure on management to commit fraud is high financial targets. Akbar (2017) explains that financial targets are identified with short-term targets set by the company to achieve specific profit values. These financial targets will determine management bonuses and salaries (Skousen et al., 2009). Therefore, financial targets can put pressure on management to achieve successful performance. Diany & Ratmono (2014) show that the pressure factor caused by financial targets and external pressures influences the FFR. Based on this explanation, the following hypothesis was obtained:

$H_1$ : Pressure Affects AISA's Fraudulent Financial Reporting

Akbar (2017) explains that the assessment of accounting estimates provides an opportunity for management to commit fraud in accounting records. Research Akbar (2017) and Skousen et al. (2009) used inventory proxies and audit committee size as indicators that influence the opportunity factor to FFR. Because inventory is the highest proportion of current assets, which significantly influences the statement of financial position and profit/loss (Akbar, 2017). Based on this explanation, the following hypothesis is obtained:

$H_2$ : Opportunity Affects AISA's Fraudulent Financial Reporting

SAS No.99 explains that rationalization attitudes that allow management to be involved in or justify the FFR act may not be detected easily. So that the auditor needs to be responsive to information that may be relevant in identifying misstatements in the financial statements. Based on the research of Skousen et al. (2009), discretionary accruals can illustrate the attitude of management in making decisions and explain the rationalization of the company's financial statements. The auditor can detect the existence of discretionary accrual abuse and result in a qualified opinion (Demetriades & Owusu-Agyei, 2021). Based on this explanation, the following hypothesis is obtained:

$H_3$ : Rationalization Affects AISA's Fraudulent Financial Reporting

## III. Research Method

### 3.1 Data Collection

Data is generated from secondary data obtained from Thomson Reuters – Eikon accessed through the official website. The data used is related to the company's financial data relevant to the measurement proxy of the research method. The company that is the object of research is PT Tiga Pilar Sejahtera Food Tbk (AISA). The data used is financial data from the initial year of AISA's status as a public company (2003) to the year of the AISA financial statement scandal for December 31, 2017 (2017).

### 3.2 Methodology

This research uses a case study approach with a quantitative method, in which the analysis is based on numerical data. The analysis was done by testing the hypothesis using linear regression (*linear regression*) through Excel software. Numerical data is distributed in Excel and classified by year and financial data identity. All data were used to formulate

measurement proxies of the variables (Table 1). Hypothesis testing with the linear regression method involves two variables: the dependent variable (Y) and the independent variable (X). The following is the research regression formula:

$$E(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \quad (1)$$

The dependent variable (Y) represents the M-score value obtained from the M-score model formula developed by Beneish (1999). The M-score model consists of eight financial ratios used to detect areas that indicate manipulation of financial statements. If an M-SCORE value is greater than (-2.22), the company is indicated to manipulate financial statements. The greater the M-SCORE, the greater the potential for management to manipulate the financial statements. Therefore, the M-SCORE was used as a fraudulent financial reporting proxy.

The dependent variables ($X_1$, $X_2$, $X_3$, and $X_4$) are measurement proxies developed by Skousen et al. (2009) by adopting fraud risk factors from SAS No. 99 (AICPA, 2002). Two indicators influence the pressure factor: financial targets measured using the ROA ($X_1$) and external pressure measured using the LEV proxy ($X_2$). ROA proxy is one of the profitability ratios used to measure company performance. Mafiana et al. (2016) stated that management uses last year's ROA to determine the company's financial target for the following years. Thus high ROA could give high pressure on management and lead to FFR. LEV proxy is measured by debt to asset ratio, which means high leverage indicates the company's high debt (Mafiana et al., 2016). The opportunity factor is influenced by the nature of industry indicator, which is measured using the INVENTORY ($X_3$). INVENTORY proxy was used to measure opportunity factor because inventory is an account that involved subjective judgment of management (Summers & Sweeney, 1998). SAS No.99 (AICPA, 2002) stated that any account that requires subjective judgment in determining its value increases audit risk. The external auditor's audit report indicator measures the rationalization factor, namely "AUDREPORT" ($X_4$). AUDREPORT proxy is a dummy variable that indicates whether the external auditor gives a qualified opinion for the company's financial statement. Akbar (2017) stated that a discrepancy in the financial statement might be shown through the auditor's opinion. Thus, an external auditor may also act as an early warning in the occurrence of fraud.

**Table 1.** Measurement of Regression

| Variable | Indicator | Proxy | Measurement |
|---|---|---|---|
| Y | Fraudulent financial reporting | M-SCORE | – 4.84 + 0.92DRSI + 0.528GMI + 0.404AQI + 0.892SGI + 0.115DEPI – 0.172SGAI – 0.327LVGI + 4,679TATAI |
| X1 | Financial targets | ROA | Earnings after-tax ÷ Total Assets |
| X2 | External pressure | LEV | Total Liabilities ÷ Total Assets |
| X3 | Nature of industry | INVENTORY | $[\text{Inventory}_t \div \text{Sales}_t] - [\text{Inventory}_{t-1} \div \text{Sales}_{t-1}]$ |
| X4 | The audit report by external auditors | AUDREPORT | A dummy variable coded by '0' indicate that unqualified opinion and is coded by '1' otherwise |

Description:
DRSI = Day's Sales Receivable Index; GMI = Gross Margin Index; AQI = Asset Quality Index; SGI = Sales Growth Index; DEPI = Depreciation Index; SGAI = Sales, General, & Administrative Expense Index; LVGI = Leverage Index; TATAI = Total Accruals to Total.

Source: Research Data, 2021

The test model in this study refers to the research of Demetriades & Owusu-Agyei (2021). The researcher used the regression formulation (1) to explain how the relationship between the dependent variable (Y) and the independent variables ($X_1$, $X_2$, $X_3$, and $X_4$) and *error* was used. The regression results will provide significant test results and coefficients on the model designed to prove the hypothesis.

## IV. Results and Discussion

### 4.1 Data Description

**Table 2.** Analysis Results Data Description

| Variable | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| M-SCORE (Y) | -2.0356 | 1.0855 | -4.9662 | -0.2645 |
| ROA ($X_1$) | -0.0255 | 0, 2523 | -0.9317 | 0.0785 |
| LEV ($X_2$) | 0.6300 | 0.0750 | 0.5058 | 0.7385 |
| INVENTORY ($X_3$) | 0.0115 | 0.1264 | -0.4123 | 0.1603 |
| AUDREPORT ($X_4$) | 0, 0667 | 0.2582 | 0.0000 | 1.0000 |

Source: Research Data, 2021

M-SCORE (Y) is an indicator of financial statement manipulation. The average value of M-SCORE (-2.0356) is greater than the indicator (-2.22), which means that the indication of manipulation of AISA's financial statements from 2003-2017 is high. ROA ($X_1$) is a ratio of return on assets that describes the company's financial targets to show good financial performance and increase continuously. The low average value of ROA indicates potential pressure felt by management to increase ROA in attracting investors. LEV ($X_2$) is an indicator that describes the form of excessive pressure from external parties. INVENTORY ($X_3$) is an indicator of the *nature of the industry* that describes the value of inventory to sales. AUDREPORT ($X_4$) is an indicator of the rationalization factor determined by the number *dummy* to show the audit opinion obtained by the company from the external auditor. AUDREPORT shows an average value of 0.0667, which means that most of AISA's financial statements received an unqualified opinion from 2003-2017.

**Table 3.** Correlation Results

| | M-SCORE | ROA | LEV | INVENTORY | AUDREPORT |
|---|---|---|---|---|---|
| M-SCORE | 1 | | | | |
| ROA | **-0.0451 | 1 | | | |
| LEV | -0.2312 | -0.0311 | 1 | | |
| INVENTORY | -0.5117 | *0.0824 | 0.4413 | 1 | |
| AUDREPORT | *0.0848 | -0.9935 | *-0.0634 | *-0.0938 | 1 |
| Description:<br>M-score: fraudulent financial reporting; ROA: financial targets; LEV: external pressure; INVENTORY: nature of the industry; AUDREPORT: external auditor's opinion.<br>Level of significant: ***, **, * for α <1%, 5%, 10% | | | | | |

Source: Research Data, 2021

The correlation analysis used in this study is a model of Pearson's Correlations. This correlation analysis will show the relationship between the variables of the study. The Pearson Correlation figure closer to 1.00 will increasingly show a strong correlation, while

the figure in Sig. will show its significance. The results of the correlation analysis (Table 3) show that there is an interaction between the dependent variable and the independent variable, namely a negative and significant correlation of 5% (M-SCORE with ROA) and a significant positive correlation of 10% (M-SCORE with AUDREPORT). While the relationship between independent variables is shown by the ROA-INVENTORY proxy interaction with a significant positive correlation (10%), the LEV-AUDREPORT proxy interaction with a significant negative correlation of 10%, and the INVENTORY-AUDREPORT proxy interaction with a significant negative correlation of 10%.

### 4.2 Significance Test

Based on the results of AISA linear regression between financial statement manipulation indicators (Y) and seven independent variables, the hypothesis can be described as follows:

$$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$$

$H_1 = \beta_1$ and/or $\beta_2$ and/or $\beta_3$ and/or $\beta_4$ is not equal to zero

Table 4 shows the results of the regression of the model that has been formulated. According to Lepa (2020), if the p-value from the regression results shows a value below the significant level of = 0.05 or 0.01, or 0.1, then the hypothesis $H_0$ can be rejected, and there is a significant effect between the dependent and the independent variable. Based on the regression results, using = 0.05 with p-value = 0.0289, it shows that the hypothesis $H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ can be rejected and proves that there is a significant effect between the dependent variable measured by the M-score with four independent variables measured based on the fraud triangle theory, which are ROA, LEV, INVENTORY, and AUDREPORT.

Results of regression testing also show the p-value for each independent variable (Table 4), namely ROA ($X_1$) is 0.0104, LEV ($X_2$) is 0.0208, INVENTORY ($X_3$) is 0.0044, and AUDREPORT ($X_4$) is 0.0103. The p-value of the independent variables ($X_1$, $X_3$, and $X_4$) shows a number below the significant value ($\alpha$ = 0.01 or 0.05 or 0.1) which indicates that the independent variable has a significant effect on determining the M-SCORE value. This shows that the four measurement proxies based on the fraud triangle theory can be indicators that influence the act of manipulating financial statements.

**Table 4.** Regression Results

| Dependent Variable: M-score (Y) | | | |
|---|---|---|---|
| R-square | | 0.6295 | |
| F-value | | 4.2473 | |
| p-value | | 0.0289 | ** |
| Independent Variable | Coefficient | p-value | |
| Intercept | -14.9642 | 0.0085 | *** |
| ROA ($X_1$) | 47.5500 | 0.0104 | ** |
| LEV ($X_3$) | 17.6758 | 0.0208 | * * |
| INVENTORY ($X_4$) | -7.9355 | 0.0044 | *** |
| AUDREPORT ($X_7$) | 46.4800 | 0.0103 | ** |
| Description:<br>M-score: fraudulent financial reporting; ROA: financial targets; LEV: external pressure; INVENTORY: nature of the industry; AUDREPORT: external auditor's opinion.<br>Level of significant: ***, **, * for $\alpha$ <1%, 5%, 10% | | | |

Source: Research Data, 2021

### 4.3 Pressure and Manipulation of Financial Statements

Based on the results of the analysis, financial target indicators (ROA) and external pressure (LEV) have a significant positive effect on indications of manipulation of AISA's financial statements with a p-value below the significant level ($\alpha = 0.01$) and positive coefficient. This shows that AISA has high financial targets and external pressures, thereby increasing the pressure on AISA's management. The excess pressure felt by AISA management can encourage management to manipulate financial statements. The study results are in accordance with the results of Akbar (2017), which state that high financial targets and external pressures can increase the pressure felt by management and lead to fraudulent financial reporting. Sihombing & Sahardjo (2014) stated that high pressure on management could lead to high FFR if debt or loan instead of equities mainly fund the company. Thus, it will indicate an alert of going concern when the company continues to make loans without considering the equity held to pay off the loan.

### 4.4 Opportunities and Financial Statement Manipulation

Based on the analysis results, the opportunity factor measured using the nature of industry indicator measured from the INVENTORY proxy has a significant effect on the indication of AISA's financial statement manipulation with a p-value below the significant level ($\alpha = 0.01$). The influence of the indicator nature of industry indicator shows that the company's inventory records are indicated to have been manipulated by management. INVENTORY proxy is used as an opportunity factor because inventory is an account that involves subjective judgment (Summer & Sweeney, 1998). Thus, management could use this account to manipulate earnings. The results of this study are in line with Skousen et al. (2009), which explains that the estimation of inventory recording can be determined subjectively by management to provide an opportunity for management to manipulate the financial statements.

### 4.5 Rationalization and Manipulation of Financial Statements

Based on the analysis results, the rationalization factor measured using the audit report indicator (AUDREPORT) has a significant effect on the indications of manipulation of AISA's financial statements with a p-value below the significant level ($\alpha = 0.01$). AISA's external auditors gave a fair opinion with notes on the audit of the financial statements for December 31, 2017. The external auditor emphasized uncertainty about AISA's business continuity in the future. This shows that the opinion of AISA's external auditors has provided information that indicates irregularities in AISA's financial statements. As Akbar (2017) explained, fraud will be known when the external auditor finds discrepancies in the financial statements, and the information will be reflected in the audit report. These results are in line with Demetriades & Owusu-Agyei (2021) research, which proves that the rationalization factor of the results of external audit opinions can explain indications of fraudulent financial reporting.

## V. Conclusion

Based on the results of testing each independent variable, the analysis proves that the factors of pressure, opportunity, and rationalization significantly influence the manipulation of the financial statements of Tiga Pilar Sejahtera Food Tbk (AISA) in 2003-2017. The pressure factors that drive AISA's manipulation actions are indicators of financial targets and external pressures. The indicator that drives the opportunity factor is the nature of industry. While the indicator to measure the rationalization factor is the audit report. This research is in line with previous research (Demetriades & Owusu-Agyei, 2021; Akbar, 2017; Diany & Ratmono, 2014; and Skousen et al., 2009), which proves that three fraud risk factors, which are pressure, opportunity, and rationalization, can lead management to manipulate financial statements (FFR).

Overall, this study strengthens the idea that all four proxies of the fraud triangle theory can be used to detect factors that influence indications of fraudulent financial reporting (FFR). The results are proven to explain the factors that influence the AISA's scandal using four fraud triangle proxies associated with the Beneish M-score model as an indicator of FFR. Thus, the contribution of the results of this study provides a new perspective in the development of forensic accounting to detect fraudulent financial reporting (FFR).

As in available research, this study also has limitations. The first limitation is the object of the research only focuses on one company and one industry (food and beverage industry). Second, the fraud triangle indicator used only includes four proxies. It is recommended to conduct analysis on several companies and cross for further research. In addition, researchers can use different fraud triangle proxies for more comprehensive research.

## References


Association of Certified Fraud Examiners (ACFE). (2020). *Report To The Nations*. https://acfepublic.s3-us-west-2.amazonaws.com/2020-Report-to-the-Nations.pdf

Akbar, T. (2017). The Determination Of Fraudulent Financial Reporting Causes By Using Pentagon Theory On Manufacturing Companies In Indonesia. *International Journal of Business, Economics and Law*, *14*.

American Institute of Certified Public Accountants (AICPA). (2002). *Consideration of fraud in financial statement audit. Statement on auditing standards No. 99*.

Beneish, MD (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, *55*(5), 24–36. https://doi.org/10.2469/faj.v55.n5.2296

Cressey, DR (1953). Other people's money; a study of the social psychology of embezzlement.

Demetriades, P., & Owusu-Agyei, S. (2021). Fraudulent financial reporting: an application of fraud diamond to Toshiba's accounting scandal.*Journal of Financial Crime*.

Diany, YA, & Ratmono, D. (2014). Determinants Of Financial Statement Fraud:Testing The Fraud Triangle Theory. *Diponegoro Journal Of Accounting*, *3*(2), 1–9. http://ejournal-s1.undip.ac.id/index.php/accounting

Erns & Young (EY). (2020). *Report on the Fact-Based Investigation of PT Tiga Pilar Sejahtera Food Tbk*. https://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/201903/6b2d1df1a4_1399994ba4.pdf

Ichsan, R. et al. (2021). Determinant of Sharia Bank's Financial Performance during the

Covid-19 Pandemic. Budapest International Research and Critics Institute-Journal (BIRCI-Journal). P. 298-309.

Mafiana, A., Lindrianasari, L., & Yuztitya, A. (2016). Pendeteksian Kecurang Laporan Keuangan Menggunakan Fraud Diamond. J*urnal Bisnis dan Ekonomi, 231*, 72-89.

Lepa, S. (2020). Statistical Significance: Testing. *The International Encyclopedia of Media Psychology*, 1-1111.

Sihombing, Kennedy Samuel dan Rahardjo, Shiddiq Nur. (2014). Analisis Fraud Diamond dalam Mendeteksi Financial Statement Fraud: Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2010- 2012. Diponegoro Journal of Accounting Vol. 03 No. 02. ISSN (Online): 2337- 3806.

Skousen, CJ, Smith, KR, & Wright, CJ (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. *Advances in Financial Economics*, *13*, 53–81. https://doi.org/10.1108/S1569-3732(2009)0000013005