



Financial Statement Fraud Detection with Fraud Triangle

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Abstract

The purpose of this study was to analyze elements in the fraud triangle to clarify the possibility of financial statement fraud in the consumer goods industry subsector. The population in this study is all manufacturing companies in the consumer goods industry sub-sector measured by the M-score model. The total sample used is 36, consisting of 9 companies. The method in this research is quantitative with primary data type. The analytical tool used in this study is logistic regression analysis using the SPSS v20. The results of this study indicate that external pressure, has a significant effect, meanwhile, financial stability, nature of industry and change in auditors do not affect the possibility of fraudulent financial statements. Simultaneously these four variables affect the financial statement fraud. The implication is to contribute to those who have an interest in assessing the potential for fraud in the company. The higher the LEVERAGE value, the greater the potential for fraudulent financial statements.

Keywords:

*Beneish M-Score
Change in auditor
External pressure
Financial stability
Nature of industry.*

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1. Background

ACFE (2020) in Report to The Nations on Occupational Fraud and Abuse The 2020 Global Fraud Study illustrates that fraud can be divided into three categories, there are asset misappropriation, corruption, and financial statement fraud. Figure 1 explains that the most common cases in 2019-2020 were asset misappropriation which is 86%, while the lowest percentage is occupied by financial statement fraud, which is 10%. This figure explains that cases of financial statement fraud rarely occur in asean countries, but not only because they rarely occur, these cases do not harm the country. The loss resulting from financial statement fraud is \$954,000 and is the largest loss compared to the other two categories.

The financial statement scandals in recent years provide evidence of audit failures that have a detrimental impact on businesses. one of which is experienced by PT Garuda Indonesia (Persero) Tbk (Company) which has recorded receivables whose contracts are for the next 15 years to the first year and are recognized as income and included in other income. As a result, the company that previously made a loss then made a profit.

This study uses manufacturing companies as research subjects, because according to the authors of data such as the number of cases, the losses incurred by manufacturing companies are considered more productive and can have a wide chain effect so that they are able to increase the workforce, generate the largest source of foreign exchange, and contribute to taxes and the biggest customs (Putri & Lestari, 2021).

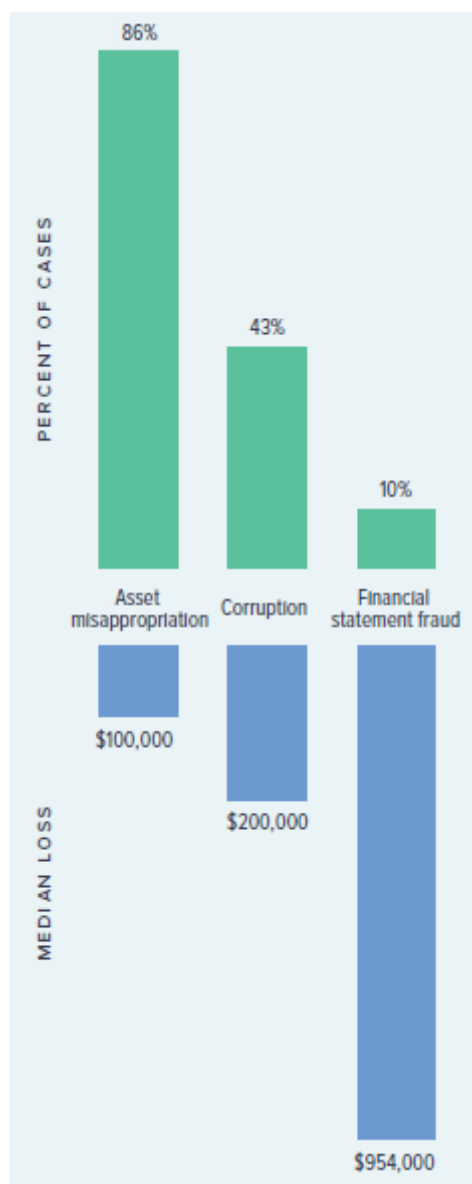


Figure 1. Categories of occupational fraud.
Source: ACFE (2020).

Manufacturing company subsector of the consumer goods industry is one of sector that has a high level of competition so that companies are led to have excellent performance so that they can be superior in competing. Therefore, the increasingly fierce business competition in the consumer goods industry sector makes fraud perpetrators able to carry out their actions. It's not just that the manufacturing sector, even though it's been under pressure due to the Covid-19 pandemic since 2020, has still made the biggest contribution to the increase in Indonesia's economic growth.

The updates in this research are as follows:

1. Continuing the year in the previous research, that is from 2018-2020.
2. Adding data for 2021 where covid-19 peak in Indonesia.
3. Adding the opportunity variable which is proxied by the nature of industry and the rationalization variable which is proxied by the change in auditor.
4. Tested by using a financial statement fraud proxied by the *Beneish M-Score*.

1.1. Formulation of the Problem

1. Does financial stability have a partial effect on financial statement fraud in manufacturing companies subsector consumer goods industry ?
2. Does external pressure partial effect on financial statement fraud in manufacturing companies subsector consumer goods industry ?
3. Does nature of industry have a partial effect on financial statement fraud in manufacturing companies subsector consumer goods industry ?

4. Does change in auditor partially effect to financial statement fraud in manufacturing companies subsector consumer goods industry ?
5. How does financial stability, external pressure, nature of industry, ineffective monitoring, and change in auditors on financial statement fraud in manufacturing companies subsector consumer goods industry simultaneously ?

2. Study of Theory and Framework of Thinking

2.1. Theory Description

2.1.1. Agency Theory

In this study, the main theory used is *agency theory*. This theory was put forward by *Jensen and Meckling*, who defined it as the relationship between the owner and the agent who manages the owner's resources. This relationship has the potential to cause a conflict between the owner and the agent due to a conflict of interest (*Irine & Kabalmay, 2021*).

2.2. Fraud

According to the Big Dictionary of Indonesian Language, Fraud is a noun an act of cheating / dishonesty / deceit. Fraud is an act carried out by individuals or groups that can harm other people, organizations or companies by taking material benefits for personal or group gain (*Safuan & Budiandru, 2019*).

2.3. Fraud Triangle

Fraud Triangle was first introduced by *Donald R. Cressey*, a criminology doctoral student at the University of Indiana during the 1940s and was interested in fraudulent behavior. In his doctoral dissertation, Cressey conducted interviews with 200 prisoners convicted of fraud. based on the results of this study, the last *Cressey*, known as the fraud triangle. The hypothesis is as follows:

"Trusted trustees are a bet of trust when they anticipate an indivisible economic problem. We recognize that this problem can be secretly resolved by violating our position of financial trust, and we are aware of the situation. You can relate it to your actions by expressing it in words. To adapt your self-image as a user of the entrusted funds and assets (*Sujeewa, Yajid, Azam, & Dharmaratne, 2018*).

This hypothesis is known as the fraud triangle which includes 3 things that encourage (motivate) fraudulent behavior, namely pressure, opportunity and rationalization. The fraud triangle is depicted in [Figure 2](#) as follows:

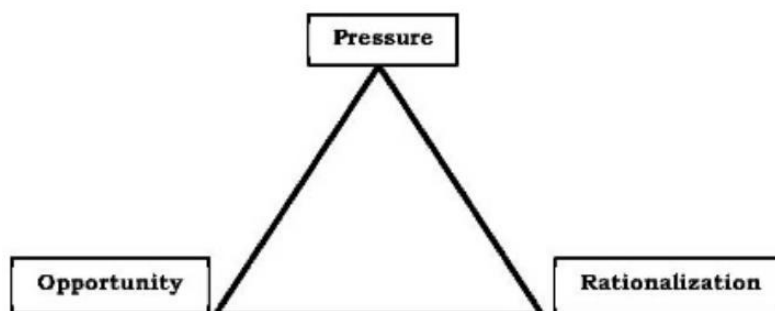


Figure 2. Fraud triangle theory by cressey.

Source: *Kagias, Cheliatsidou, Garefalakis, Azibi, and Sariannidis (2022)*.

2.4. Pressure

Pressure is an urge from someone to commit fraud, both financial and non-financial. Every perpetrator has to face some kind of pressure to commit fraud. Perceived pressure is defined as the motivation that directs the perpetrator to perform unethical behavior. The pressure faced by a person to commit fraud can come from within the person, pressure from the environment, financial pressure, pressure due to bad habits, and pressure from the work environment are examples of pressures that can encourage someone to commit fraud. Financial pressure is the most powerful impetus for a person, or company management, to commit fraud. About 95%, fraud is committed due to financial pressure. Manipulation of financial statements carried out by company management in various ways, in general, is also carried out due to financial pressure (*Pratiwi & Nurbaiti, 2018*).

2.5. Opportunity

Fraudsters are supposed to have the knowledge and ability to commit fraud. The logic is that when a person is placed in a credible position, aware of the weaknesses of internal control, and gains sufficient knowledge of how to commit a crime, he or she commits a fraud. *Cressey* argues, there are two components of this perception of opportunity. First, general information, which is knowledge that positions containing trust or trust are violated without consequences. Second, the technical skills or skills needed to carry out the crime.

This is usually the expertise or skill that the person has that led to getting the position (Sayidah, Assagaf, & Possumah, 2019).

2.6. Rationalization

The third element of the injustice triangle theory is rationalization. This concept argues that perpetrators of unethical behavior devise a rationale for certain morally acceptable behaviors before engaging in fraud or other forms of unethical behavior. Rationalization seeks to justify unethical behavior different from normal criminal activity (Said, Alam, Ramli, & Rafidi, 2017).

2.7. Financial Statement Fraud

The definition of financial statement fraud by the American Institute Certified Public Accountant is a deliberate act or omission that results in material misstatement that misleads the financial statements. Financial statement fraud is a very complex problem because of the impact it causes. One of the impacts is the decreasing trust of users of the company's financial statements (Nuha, Ambarwati, & Lysandra, 2021).

Financial statement fraud is a deliberate misrepresentation or concealment in a number or disclosure in financial statements with the aim of deceiving users of financial statements.

2.8. Framework

The theoretical framework used in this study shows a description of the independent proxy variables of financial stability, external pressure, nature of industry, and change of board of directors. Affect the dependent variable, namely financial statement fraud. The theoretical framework that can be formed is as seen in Figure 3:

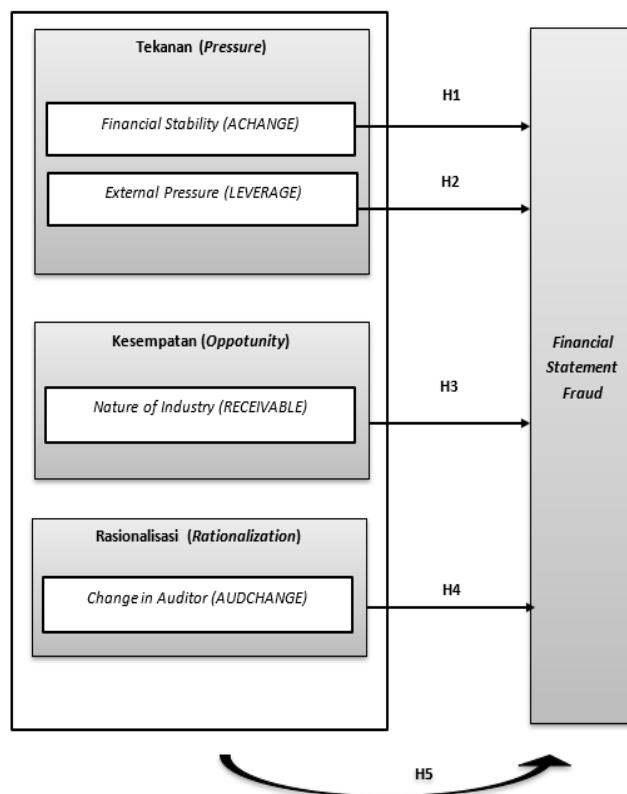


Figure 3. Framework.

2.9 Hypothesis

- H1: Financial stability proxied by (ACHANGE) has an effect on financial statement fraud.
- H2: External pressure proxied by (LEVERAGE) has an effect on financial statement fraud.
- H3: Nature of industry as proxied by (RECEIVABLE) has an effect on financial statement fraud.
- H4: Ineffective monitoring which is proxied by (AUDCHANGE) has an effect on financial statement fraud.
- H5: Financial stability, external pressure, nature of industry, ineffective monitoring, and change in auditors has an effect on financial statement fraud.

3. Research Methods

3.1. Types of Research

This research is a type of quantitative research with an associative approach. An associative quantitative study method is a study aimed at determining the effect or relationship between two or more variables. According to Saragih, Saragih, Purba, and Panjaitan (2021).

3.2. Population and Sampling Procedure

Population is a domain of generalization made up of objects / subjects with specific qualities and characteristics (Jasmalinda, 2021). The population in this study are all manufacturing companies subsector consumer goods industry listed on the Indonesia Stock Exchange which publish financial reports for the 2018 financial year to the second quarter of 2021. The population listed on the Indonesia Stock Exchange are 53 companies.

Table 1. Variable operations.

Variable	Draft	Indicator	Scale
Pressure	X1 Financial Stability (ACHANGE)	Financial Stability is a condition that describes the company's financial condition in a stable condition. $\text{ACHANGE} = \frac{\text{Total Assets}_t - \text{Total Assets}_{t-1}}{\text{Total Assets}_{t-1}}$ (Himawan & Karjono, 2019)	Ratio
	X2 External Pressure (LAVERAGE)	External Pressure is excessive pressure for management to meet the requirements and expectations of third parties. $\text{LEVERAGE} = \frac{\text{Total Amount of debt}}{\text{Total Assets}}$ (Sayidah et al., 2019)	Ratio
Opportunity	X3 Nature of Industry (RECEIVABLE)	Nature of Industry is the ideal state of a company in the industry and is a loss caused by estimates and considerations. $\text{RECEIVABLE} = \frac{\text{Accounts Receivable}_t}{\text{Sale}_t} - \frac{\text{Accounts Receivable}_{t-1}}{\text{Sale}_{t-1}}$ (Septriani & Handayani, 2018)	Ratio
Rationalization	X4 Change in Auditor (AUDCHANGE)	Change in Auditor, namely the influence of a change or change in the external auditor in a company can be an indication of fraud. The auditor can provide several opinions on the company being audited in accordance with the conditions that occur in the company. AUDCHANGE Dummy variable, where the score: 1 = if there is a change in the external auditor during 2018-2021. 0 = if there is no change in the external auditor during 2018-2021. (Putri & Lestari, 2021)	Nominal
	Y Fraudulent financial statement (M- SCORE)	Financial Statement Fraud can be defined as fraud committed by management in the form of a material misstatement of Financial Statements that is detrimental to investors and creditors. M-SCORE $= -4.84 + 0.920 \text{ DSRI} + 0.528 \text{ GMI} + 0.404 \text{ AQI} + 0.892 \text{ SGI} + 0.115 \text{ DEPI} - 0.172 \text{ SGAI} - 0.327 \text{ LVGI} +$ Dummy variable, where the score: 1 = Beneish M-Score > -2.22, the company is indicated to have committed fraudulent financial reporting or is classified as a manipulator. 0 = Beneish M-Score < -2.22, the company is not indicated to commit fraudulent financial reporting or is classified as a non-manipulator. (Ferica et al., 2019)	Nominal

The sampling method used in this research is Non-probability sample purposive sampling method, namely the collection of sample data not taken randomly but samples are selected based on certain criteria which are the basis for sampling by the researcher. The sample of this research is the manufacturing companies of the

consumer goods industry subsector which are listed on the Indonesia Stock Exchange with the following criteria:

1. A manufacturing company listed on the Indonesia Stock Exchange (IDX) from 2018 to 2021 and in the sub-sector of the consumer goods industry.
2. 2018-2020 financial reports (Annual reports) and 2021 Quarterly Reports on the Indonesia Stock Exchange.
3. Companies that disclose data related to research variables and available in full during the 2018-2021 period.
4. Companies that present their financial statements in Rupiah (Rp) from 2018 -2021.

3.3. Data Types and Sources

The type of data used in this study is quantitative data. Numerical data and quarterly reports that can be expressed in account units derived from the annual accounts of manufacturers in the sub-sector of the consumer goods industry listed on the Indonesia Stock Exchange between 2018 and 2021.

The source of this research data comes from secondary data, which can be accessed through the Indonesia Stock Exchange website or website of the company concerned. Variable operations for this reasearch presented in [Table 1](#):

4. Results and Discussion

4.1. Data Description

The selection process based on predetermined criteria is presented in [Table 2](#):

Table 2. Sample selection process based on criteria.

No	Criteria	Amount
1	Manufacturing companies in the Consumer Goods Industry Sub-sector listed on the Indonesia Stock Exchange (IDX) for the period 2018 – 2021.	53
2	Companies that do not present complete financial statements	(11)
3	Presentation of financial statements using dollars	(8)
4	Companies that did not experience an increase in profits from 2018-2020	(25)
Total Company		9
Total Sample period (2018 - 2020)		27
Total Sample period (Q1 and Q2 2021)		9
Total Sample		36

4.2. Simultaneous Hypothesis Test

With the number of observations ($n=36$) and the number of independent and dependent variables ($k=5$), then the degree of freedom ($df_1 = k-1 = 5-1 = 4$) and ($df_2 = nk = 36-5 = 31$), where the level of significance = 0.05. Then the f_{table} can be calculated using the ms excel formula with the insert function formula as follows:

$$F_{table} = \text{FINV}(\text{Probability}, \text{deg_freedom1}, \text{deg_freedom2})$$

$$F_{table} = \text{FINV}(0,05,4,31)$$

$$F_{table} = 2.68$$

Table 3. Omnibus tests of model coefficients.

		B	Sig.
Step 1 ^a	X1	-0.681	0.633
	X2	4.489	0.047
	X3	11.951	0.216
	X4	-20.572	0.999
	Constant	-2.533	0.020

Note: a. Variable(s) entered on step 1: X1, X2, X3, X4.

Based on [Table 3](#) it can be obtained that the f_{count} value is greater than f_{table} ($5.205 > 2.68$) with a significance level ($0.000 < 0.47$), so H_5 is accepted. So, it can be concluded that financial stability (ACHANGE), external pressure (LAVERAGE), nature of industry (RECEIVABLE), and rationalization (AUDCHANGE) simultaneously HAVE POSITIVE EFFECT on financial statement fraud.

4.3. Partial Hypothesis Test

In logistic regression, to analyze the effect of the independent variable on the dependent variable, it is partially obtained from the results of the Variable of Equation statistical test obtained from the significance value (sig) from the Variable of Equation table. In [Table 4](#) is a summary of the Variable of Equation output results regarding the partial effect of the independent variable on the dependent variable.

Table 4. Omnibus tests of model coefficients.

Chi-square	df	Sig.
5.205	4	0.47
5.205	4	0.47
5.205	4	0.47

5. Discussion of Research Results

Based on the tests that have been carried out above, the following conclusions are obtained in [Table 5](#):

Table 5. Result summary hypothesis test.

Hipotesis	Variabel	Decision	Conclusion
H1	ACHANGE → M-SCORE	H1 Rejected	No Effect
H2	LEVERAGE → M-SCORE	H2 Received	Take effect
H3	RECEIVABLE → M-SCORE	H3 Rejected	Tidak Take effect
H4	AUDCHANGE → M-SCORE	H4 Rejected	No Effect
H5	ACHANGE LEVERAGE → M-SCORE RECEIVABLE AUDCHANGE	H5 Received	Take effect

- The effect of financial stability on financial statement fraud
The first hypothesis (H1) that ACHANGE has an effect on financial statement fraud. From test result from [Table 5](#) we can see the hypothesis was unaccepted or that financial stability (ACHANGE) have NEGATIVE EFFECT on financial statement fraud. This corresponds to research This study supports the results of former studies conducted by ([Ozcelik, 2020](#)).
- The effect of external pressure on financial statement fraud
external pressure has an effect on financial statement fraud.
The second hypothesis (H2) that ACHANGE has an effect on financial statement fraud. From test result from [Table 5](#) we can see the hypothesis was accepted or that external pressure (LEVERAGE) have POSITIVE EFFECT on financial statement fraud. This corresponds to research This study supports the results of former studies conducted by ([Budiyono & Arum, 2020](#)).
- The effect of nature of industry on financial statement fraud
The third hypothesis (H3) that RECEIVABLE has an effect on financial statement fraud. From test result from [Table 5](#) we can see the hypothesis was unaccepted or that nature of industry (RECEIVABLE) have NEGATIVE EFFECT on financial statement fraud. This corresponds to research This study supports the results of former studies conducted by [Septriani and Handayani \(2018\)](#).
- The effect of changes in auditors nature of industry on financial statement fraud
The fourth hypothesis (H4) that AUDCHANGE has an effect on financial statement fraud. From test result from [Table 5](#) we can see the hypothesis was unaccepted or that auditor change (AUDCHANGE) have NEGATIVE EFFECT on financial statement fraud. This corresponds to research This study supports the results of former studies conducted by [Sunardi and Amin \(2018\)](#).

6. Conclusion

Based on data analysis and discussion results, it can be concluded that the external pressure (Leverage) have Positive Effect to Fraudulent Financial Statement, and for the rest are financial stability (Achange), Industry (Receivable), and auditor change (Audchange) have NEGATIVE EFFECT on variabel Fraudulent Financial Statement.

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