



**BENEISH M-SCORE MODELS TO DETECT FINANCIAL FRAUD CASE
(STUDY OF CUSTOMER GOODS COMPANIES LISTED ON IDX)**

Khairunnisa¹, Defel Septian², Vina Febrianti³

Bumigora University^{1,2,3}

Email: nisa@universitasbumigora.ac.id

ABSTRACT

This study aims to determine companies classified as manipulators, nanomanipulators and gray companies Customer Goods companies listed on the Indonesia Stock Exchange. The population in this study were 20 Customer Goods companies listed on the Indonesia Stock Exchange for the period 2019 to 2023. The sampling technique used purposive sampling. The data collection method uses the documentation method. Data analysis using the Beneish M-Score Method which consists of 8 variables, namely Days Sales In Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales General and Administrative Expense (SGAI), Leverage Index (LVGI) and Total Accrual to Total Assets Index (TATA). Based on the results of the study, it shows that the DSRI variable is classified as a manipulator of 15%, gray company 20%, and non-manipulator 65%. GMI is classified as a 12% manipulator, 18% gray company, and 70% non-manipulator. AQI is classified as a manipulator 22%, gray company 28%, and non-manipulator 50%. SGI is classified as a 7% manipulator, 24% gray company and 69% non-manipulator. SGAI is classified as a 32% manipulator, 0% gray company, and 68% non-manipulator. LVGI is classified as a 30% manipulator, 15% gray company, and 55% non-manipulator. TATA is classified as an 11% manipulator, 2% gray company, and 87% non-manipulator.

Keywords: Beneish M-Score, Customer Goods, Fraud, Grey Company, Manipulator, Non Manipulator.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui perusahaan yang tergolong manipulator, nanomanipulator dan gray company pada perusahaan Customer Goods yang terdaftar di Bursa Efek Indonesia. Populasi dalam penelitian ini adalah 20 perusahaan Customer Goods yang terdaftar di Bursa Efek Indonesia periode 2019 sampai dengan 2023. Teknik pengambilan sampel menggunakan purposive sampling. Metode pengumpulan data menggunakan metode dokumentasi. Analisis data menggunakan Metode Beneish M-Score yang terdiri dari 8 variabel yaitu Days Sales In Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales General and Administrative Expense (SGAI), Leverage Index (LVGI) dan Total Accrual to Total Assets Index (TATA). Berdasarkan hasil penelitian menunjukkan bahwa variabel DSRI tergolong manipulator sebesar 15%, gray company 20%, dan non manipulator 65%. GMI diklasifikasikan sebagai manipulator sebesar 12%, perusahaan abu-abu sebesar 18%, dan non-manipulator sebesar 70%. AQI diklasifikasikan sebagai manipulator sebesar 22%, perusahaan abu-



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

abu sebesar 28%, dan non-manipulator sebesar 50%. SGI diklasifikasikan sebagai manipulator sebesar 7%, perusahaan abu-abu sebesar 24%, dan non-manipulator sebesar 69%. SGAI diklasifikasikan sebagai manipulator sebesar 32%, perusahaan abu-abu sebesar 0%, dan non-manipulator sebesar 68%. LVGI diklasifikasikan sebagai manipulator sebesar 30%, perusahaan abu-abu sebesar 15%, dan non-manipulator sebesar 55%. TATA diklasifikasikan sebagai manipulator sebesar 11%, perusahaan abu-abu sebesar 2%, dan non-manipulator sebesar 87%.

Kata kunci: Beneish M-Score, Barang Pelanggan, Penipuan, Perusahaan Abu-abu, Manipulator, Non Manipulator.

1. Introduction

Financial reports aim to provide information on the company's financial position, performance and cash flow. Financial reports are useful for presenting information that helps investors creditors and other interested users in making rational decisions (Setiawan & Yanti, 2020). Without good financial reports, the company will not be able to run optimally, and can even experience major obstacles in the future. It is possible that not all companies present actual information, manipulate the results of financial statements which aim to gain personal gain for the perpetrators of fraud. In fact, financial reports can harm parties directly related to the financial statement information to make decisions. If the company realizes the fraud in the company's financial statements too late, the company can be in an unstable state and even on the verge of bankruptcy.

One of the companies that have committed fraudulent financial reporting is PT Indofarma Tbk (INAF), the director of the Company manipulates financial statements by making receivables / payables and advances for the purchase of fictitious medical device products, so that it looks as if the company's target is met. The company's head office sold panbio test kits to Indofarma Tbk's subsidiary Promedik in 2020. In addition, the Head of

Finance made fictitious discount claims from several vendors and non-banking funding seekers to fulfill the operations of PT Indofarma Tbk and formed a new unit to carry out fictitious transactions. The management of the Indofarma Tbk company made financial reports as if they were healthy and experiencing good growth.

Several studies have been conducted related to the analysis of fraud indications in financial statements using the Beneish M-Score. Astrid (2016) conducted research using Beneish M-Score to detect fraudulent financial statements in manufacturing companies listed on the Indonesia Stock Exchange for the period 2013-2014. The results showed that 4 companies or 4.6% were classified as manipulators, 57 companies or 64.8% were classified as non manipulators, as many as 30.7% of companies were not classified as manipulators or non manipulators; and 4 companies or 4.5% exceeded the DSRI parameter index.

Research conducted by Fernanda (2016) detects financial statement fraud with the Beneish M-Score model. The results of this study were 170 companies that did not commit fraud and 163 companies that committed fraud. And the variables DSRI, GMI, AQI, SGI, LVGI, and TATA have an impact on fraud detection. While the other two variables, namely DEPI and SGAI, have no effect on fraud detection.



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

Research conducted by Amerti (2021) detecting financial statement fraud with Beneish M-Score in companies listed on the Indonesia Stock Exchange. The results of this study indicate that there are 2 companies that have a manipulator category in the 3 categories measured. The sample companies show that there are 2 companies classified as manipulators.

2. Theoretical Background

Fraud is a deliberate act of deception, can cause harm to one party, and the party committing the fraud gains an advantage. Fraud usually occurs due to pressure and other reasons to do so and take advantage of available opportunities (Purnawati, 2023). Financial statement fraud according to (ACFE, 2019) is an action taken by management in the form of material misstatement of financial statements and can mislead investors to make decisions. financial statement fraud is an act involving manipulation or misleading in an entity's financial statements.

Fraud Pentagon, in fraud theory there are 5 fraud risk factors, namely, opportunity, pressure, rationalization, competence, and arrogance. This fraud theory model is known as The Crowe's Fraud Pentagon which can be used to analyze potential fraud in financial statements related to agency relationships (Aprilia, 2017).

According to Beneish (1999) the Beneish M-Score has the following measurement formula:

$$\begin{aligned} \text{Beneish M-Score} = & -4,840 + 0,920 (\text{DSRI}) + 0,528 (\text{GMI}) + 0,404 (\text{AQI}) + 0,892 \\ & (\text{SGI}) + 0,115 (\text{DEPI}) - 0,172 (\text{SGAI}) - 0,327 (\text{LVGI}) + 4,697 (\text{TATA}). \end{aligned}$$

Figure 1. Beneish M-Score Formula

The number -4.84 is a constant and 8 financial ratios are multiplied by each constant. If the Beneish M-Score is greater than -2.22, which is less than negative 2.22, it means that the financial statements have been manipulated. In his article "*The Detection of Earnings Manipulation*" (1999), Messod D. Beneish puts forward the theory that there are several predictors of financial statement manipulation that can be used, namely Days Sales In Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depretiation Index (DEPI), Sales General and Administrative Expense (SGAI), Leverage Index (LVGI) and Total Accrual To Total Assets Index (TATA).

3. Methods

This research is descriptive research that explains the characteristics of a phenomenon that can be used as a basis for making decisions to solve business problems. This research uses quantitative data in the form of numbers and refers to calculations (Nur Indriantoro, 2002: 88). The data source in this study comes from the website www.idx.co.id or the company's official website in the form of secondary data. The population of this study is a Customer Goods company listed on the Indonesia Stock Exchange which publishes financial reports for the 2019-2023 period. The total



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

sample data is 100 samples (20 companies x 5 years). Data collection using documentation techniques. The table below explains the formula for each Beneish M-Score ratio.

Table 1. Beneish Index Ratio and Beneish M-Score Formula

No	Ratio	Rumus
1	Days Sales in Receivable Index (DSRI)	Accounts Receivable (t)/Sales(t)
		Accounts Receivable (t-1)/Sales(t-1)
2	Gross Margin Index (GMI)	Sales(t-1)-Cost of Goods Sold(t-1)/Sales(t-1)
		Sales(t)-Cost of Goods Sold(t)/Sales(t)
3	Assets Quality Index (AQI)	1-Current Assets(t)+Fixed Assets(t)/Total Assets(t)
		1-Current Assets(t-1)+Fixed Assets(t-1)/Total Assets(t-1)
4	Sales Growth Index (SGI)	Sales(t)
		Sales(t-1)
5	Sales General and Administrative Index (SGAI)	SGAI(t)/Sales(t)
		SGAI(t-1)/Sales(t-1)
6	Leverage Index (LVGI)	Total Liabilities(t)/Total Assets(t)
		Total Liabilities(t-1)/Total Assets(t-1)
7	Total Accrual to Total Assets (TATA)	Net Operating Profit(t)/Cash Flow from Operating Activities(t)
		Total Assets(t)

Source: Beneish (1999)

Table 2. Beneish M-Score Index Ratio

No	Ratio	Index	Indicator
1	(DSRI)	$\leq 1,031$	Non Manipulator
		$1,031 < \text{indix} < 1,465$	Grey Company
		$\geq 1,465$	Manipulator
2	(GMI)	$\leq 1,014$	Non Manipulator
		$1,014 < \text{indix} < 1,193$	Grey Company
		$\geq 1,193$	Manipulator
3	(AQI)	$\leq 1,039$	Non Manipulator
		$1,039 < \text{indix} < 1,254$	Grey Company
		$\geq 1,254$	Manipulator
4	(SGI)	$\leq 1,134$	Non Manipulator
		$1,134 < \text{indix} < 1,607$	Grey Company
		$\geq 1,607$	Manipulator
5	(SGAI)	$\leq 1,054$	Non Manipulator
		$1,054 < \text{indix} < 1,041$	Grey Company
		$\geq 1,041$	Manipulator
6	(LVGI)	$\leq 1,037$	Non Manipulator
		$1,037 < \text{indix} < 1,111$	Grey Company
		$\geq 1,111$	Manipulator
7	(TATA)	$\leq 0,018$	Non Manipulator
		$0,018 < \text{indix} < 0,031$	Grey Company
		$\geq 0,031$	Manipulator

Source: Beneish (1999)

After calculating the seven ratios, they are then formulated into the following Beneish M-Score formula:



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2

No.: 1

No. E- ISSN: 3025-4086

$Beneish\ M-Score = -4,840 + 0,920\ (DSRI) + 0,528\ (GMI) + 0,404\ (AQI) + 0,892$

$(SGI) + 0,115\ (DEPI) - 0,172\ (SGAI) - 0,327\ (LVGI) + 4,697\ (TATA).$

Figure 2. Beneish M-Score Formula

If the M-Score value is greater than -2.22, it means that the financial statements have been manipulated or there are indications of financial statement fraud. An M-Score value equal to -2.22 means that it is classified as a gray company or the company may commit fraud, but the fraud cannot be predicted so that the company cannot be classified as a manipulator or non-manipulator. If the M-Score value is smaller than -2.22, it means that there is no indication of financial statement fraud. The analysis method used in this research is descriptive statistical analysis.

4. Results and Discussion

4.1 Day Sales In Receivable Index (DSRI)

Day Sales In Receivable Index (DSRI) is the ratio of daily sales in accounts receivable for a period (t) to the previous period (t-1). A large increase in DSRI is the result of a change in credit policy to increase sales in the face of competition, but an imbalance in the increase in receivables relative to sales may indicate a surge in revenue. So that a large increase in days sales in receivable has a connection with the discovery of recording too much sales and income (Kurnianingsih & Siregar, 2019).

Results for Day Sales In Receivable Index (DSRI) based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 3. DSRI Calculation Result

Manipulator	=	15	x	100%	=	15,00%
				100		
Grey Company	=	20	x	100%	=	20,00%
				100		
Non-						
Manipulator	=	65	x	100%	=	65,00%
				100		

Source: Data processed in 2025

The fraud pentagon theory provides an overview of the factors that cause fraud in a company. In pressure, if the company experiences a significant decrease in sales and accounts receivable, the company faces financial pressure where the company can be vulnerable to fraud because it is to achieve its profit target. Opportunity shows that high DSRI can create opportunities for fraud. If controls and oversight of accounts receivable are weak, organizations can have the opportunity to manipulate or hide actual transactions. Rationalization shows that organizations involved in sales and accounts receivable manipulation can rationalize or justify their actions on the grounds that they are just trying to help the company or feel that the practice is accepted as legitimate. Capability shows that high DSRI can create the ability for employees involved in the



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

payment receipt process to hide or change data in the hope of covering up the fraud. Arrogance shows that high DSRI can affect the CEO's attitude towards the organization. If the organization is frustrated or dissatisfied with the company's financial situation, this can affect their attitude and make them more susceptible to justifying fraudulent acts because it demonstrates superiority and lack of awareness caused by greed and thinking that the company's internal controls do not apply personally to them.

Issues in DSRI do not necessarily indicate fraud. However, significant or unusual changes in reported sales and accounts receivable may be a sign that further examination is required to assess whether any fraudulent acts have occurred. Implementation of effective internal controls, regular checks, and careful monitoring of sales and accounts receivable can help prevent or detect potential fraud related to sales and accounts receivable.

4.2 Gross Margin Index

Gross Margin Index is a ratio that compares changes in gross profit generated by the company in the previous year (t-1) to one year (t). If the value of the company's gross margin index shows a value > 1 , then there is a decrease in the company's gross margin in year (t). The company indicates that it is not good if it experiences a decrease in gross profit because it gets the company has a greater opportunity to manipulate profits. Beneish states that if the gross margin worsens, it is a negative sign for the company's prospects (Widowati & Oktoriza, 2021).

The research results for the Gross Margin Index based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 4. GMI Calculation Result

Manipulator	=	12	\times	100%	=	12,00%
			$\frac{12}{100}$			
Grey Company	=	18	\times	100%	=	18,00%
			$\frac{18}{100}$			
Non Manipulator	=	70	\times	100%	=	70,00%
			$\frac{70}{100}$			

Source: Data processed in 2025

On pressure if the company shows that financial pressure can arise if the company's gross margin decreases. Managers who feel financially pressured and have bonus or incentive policies tied to gross margins may feel compelled to commit fraud to increase or maintain gross margins. Opportunity suggests that changes in gross margin may create opportunities for financial statement manipulation. Managers involved in financial reporting or cost management may see opportunities to manipulate data with the aim of increasing gross margins. Rationalization explains that employees involved in gross margin-related fraud may rationalize their actions on the grounds that they are trying to help the company or meet targets set by management. Capability suggests that managers who have access and the ability to change data relating to gross margins may take advantage of the situation to carry out fraudulent acts. Arrogance indicates that a decrease in gross margin or pressure to achieve certain targets can affect the CEO's



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

attitude towards the organization. Negative attitudes or dissatisfaction can make managers more susceptible to justifying fraudulent actions. A decrease in gross margin does not necessarily indicate fraud. A significant or unusual change in gross margin may be a potential signal that further examination is required to assess whether any fraudulent acts have occurred. Strict implementation of internal controls and careful monitoring of financial performance can help prevent or detect potential fraud.

4.3 Assets Quality Index

Assets Quality Index is used to measure the company's assets by measuring the ratio of fixed assets, other than property, plant and equipment (PPE) to total assets. According to Beneish, the higher the ratio, it is believed that the company increases deferred costs or increases intangible assets and manipulates income. If the asset quality index is greater than 1, it explains that the company has a greater ability to increase deferred costs or increase intangible assets and manipulate income (Suheni & Arif, 2020).

Research results for the Assets Quality Index based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 5. AQI Calculation Result

Manipulator	=	22	x	100%	=	22,00%
				100		
Grey Company	=	28	x	100%	=	28,00%
				100		
Non Manipulator	=	50	x	100%	=	50,00%
				100		

Source: Data processed in 2025

In pressure (pressure) if the company shows when the company's assets are lower than the debt owned, it can create financial pressure that encourages managers to manipulate or cheat related to asset reporting. Opportunity indicates that low asset quality or problems in asset valuation can create opportunities for financial statements to be manipulated. Managers who have access to asset management or financial reporting may see opportunities to manipulate information to improve perceptions of asset quality. Rationalization explains that managers involved in asset quality-related fraud can rationalize their actions with various reasons with claims that they are trying to save the company's reputation or meet asset quality targets set by management. Capability suggests that the ability to influence or change information about asset quality usually lies in the hands of employees involved in the assessment or reporting process. Arrogance suggests that perceptions of asset quality and its impact on the financial health of the company can influence employee attitudes. If there is a negative attitude or dissatisfaction with management or the company's financial situation, this can make employees more susceptible to justifying fraudulent actions.

Problems in asset quality do not necessarily indicate fraud. However, significant or unusual changes in asset quality reports may be a sign that further investigation is needed to assess whether any fraud has occurred. Effective implementation of internal



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

controls, regular inspections, and careful monitoring of the asset portfolio can help prevent or detect potential fraud related to asset quality.

4.4 Sales Growth Index

Sales Growth Index is the ratio of sales in the first year of an indication of profit engineering in year (t) to the previous year (t-1). Sales Growth Index can be used as a measure of the company's sales level. Growth in sales does not always imply financial statement engineering. However, professionals believe that companies that experience more revenue growth can engineer financial statements because financial conditions and the need for capital encourage them to strive to meet the set revenue targets (Sarumpaet, 2021).

Research results for the Sales Growth Index based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of

the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 6. SGI Calculation Results

Manipulator	=	7	x	100%	=	7,00%
				100		
Grey Company	=	24	x	100%	=	24,00%
				100		
Non Manipulator	=	69	x	100%	=	69,00%
				100		

Source: Data processed in 2025

In pressure, if the company is under pressure to achieve high sales growth or meet difficult targets, this can create pressure to find ways to make the financial statements show appropriate growth. This pressure can trigger the desire to commit fraud to achieve or hide these targets. Opportunity suggests that rapid sales growth can create opportunities for fraud, especially if there is a tendency to accommodate market demand or pressure by using manipulated financial statements. Managers who have access to the financial reporting process may see this opportunity as a way to achieve expected growth. Rationalization explains that employees or management involved in sales growth-related fraud may legitimately rationalize their actions to support company growth or meet market expectations. Capability suggests that the ability to manipulate financial statements to create the impression of sales growth can be owned by employees who are involved in the reporting process or financial management and have control over financial statements and performance measures to commit fraudulent acts. Arrogance indicates that attitudes towards sales growth and its impact on firm value can influence employee attitudes. If there is a negative attitude or dissatisfaction with growth that does not reach targets, this can make employees more vulnerable to justifying fraudulent actions.

High sales growth is generally a desirable goal for companies and shareholders. However, excessive pressure to achieve unrealistic growth can be a trigger factor for



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

fraud. The implementation of strict internal controls, careful monitoring of accounting practices, and independent external audits can help prevent or detect potential fraud related to sales growth.

4.5 Sales General and Administrative Index

Sales General and Administrative Index is used to measure the ratio of selling, general, and administrative expenses to sales in the current year compared to the previous year. One of the negative signs of the company's prospects in the future is the disproportionate inflation of sales. Beneish states that there is a positive relation between engineering potential and sales general and administrative index (Suheni & Arif, 2020).

Research results for the Sales General and Administrative Index (SGAI) based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non-manipulators:

Table 7. SGAI Calculation Results

Manipulator	=	32	x	100%	=	32,00%
				<hr/>		100
Grey Company	=	0	x	100%	=	0,00%
				<hr/>		100
Non Manipulator	=	68	x	100%	=	68,00%
				<hr/>		100

Source: Data processed in 2025

On pressure if the company faces pressure to reduce costs or achieve certain sales targets. Managers who feel financially pressured or are involved in incentive schemes linked to sales performance and cost management may feel encouraged to commit fraud to meet these targets. Opportunity suggests that opportunities for sales-related administrative fraud may arise through expense management and reporting. Managers On pressure if the company faces pressure to reduce costs or achieve certain sales targets. Managers who feel financially pressured or are involved in incentive schemes linked to sales performance and cost management may feel encouraged to commit fraud to meet these targets. Opportunity suggests that opportunities for sales-related administrative fraud may arise through expense management and reporting. Managers who have access to expense processes or cost reporting may see opportunities to manipulate data with the aim of reducing costs or improving performance. Rationalization explains that managers involved in sales-related general administrative fraud may rationalize their actions on the grounds that they are trying to help the company or meet performance targets set by management. Capability suggests that the ability to influence or change information related to sales general administrative lies with managers involved in the expense or cost reporting process. This ability can be used to commit fraud related to costs. Arrogance indicates that the desire to achieve cost targets or support cost reduction strategies can affect organizational attitudes. Negative



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

attitudes or dissatisfaction with management or the company's cost policies can make the organization more vulnerable to justifying fraudulent actions.

Legally organized and transparent expenses and costs are not fraud. However, if there are indications that there is data manipulation or inaccurate reporting related to sales general administration, this could indicate potential fraud. The implementation of strict internal controls, careful monitoring of expenses, and regular audits can help prevent or detect potential fraud related to sales general administrative.

4.6 Leverage Index

Leverage Index is a ratio that compares the amount of debt to total assets in a year (t) and the previous year (t-1). Leverage Index shows the company's ability to pay off its obligations. If the Leverage Index > 1 indicates an increase in leverage, therefore companies that experience an increase in leverage are more susceptible to earnings manipulation (Mislinawati et al., 2021).

The research results for the Leverage Index are based on a data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 8. LVI Calculation Results

Manipulator	=	30	x	100%	=	30,00%
				100		
Grey Company	=	15	x	100%	=	15,00%
				100		
Non Manipulator	=	55	x	100%	=	55,00%
				100		

Source: Data processed in 2025

In pressure, if the company faces high loan obligations or pressure to pay interest, management may feel financially pressured, which may encourage them to commit fraudulent acts to hide financial problems. Opportunity suggests that a highly leveraged financial structure can create opportunities for fraud, especially in terms of financial reporting. Managers who are involved in preparing financial statements or who have access to financial information can take advantage of the situation to carry out manipulations to cover up real financial problems. Rationalization explains that management involved in leverage-related fraud can rationalize their actions on the grounds that they are trying to protect the interests of the company or shareholders by covering up liabilities or financial problems. Capability suggests that to manipulate financial information or hide the negative impact of leverage can be owned by managers involved in the financial reporting process or financial management and management who have control over the company's financial information have the ability to commit acts of leverage-related fraud. Arrogance indicates that the CEO's attitude towards leverage and its impact on the company's finances can affect the attitude of the organization. If there is a negative attitude or dissatisfaction with the company's financial structure, this can make the organization more vulnerable to justifying fraudulent acts. However, very high levels of leverage or financial problems generated by the use of leverage can create conditions that increase the risk of fraud. The implementation of strict internal controls, regular financial audits, and careful



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

monitoring of the financial structure can help prevent or detect potential leverage-related fraud.

4.7 Total Accrual to Total Assets

Total Accruals to Total Assets is a ratio to estimate the extent to which cash underlies reported earnings, and also estimates that higher positive accruals are associated with higher earnings manipulation. Total accruals to total assets involves the accrual part of the company. The accrual part needs to be included in the calculation ratio because the accrual part has a great opportunity to be manipulated. High total accruals indicate a high amount of accrual profit owned by the company. Beneish uses total accruals to total assets to explain accounting profits that are not obtained from cash profits (Widowati & Oktoriza, 2021).

Research results for Total Accrual to Total Assets based on data distribution of 100 observations with a total of 20 companies for 5 years, namely 2019-2023. Calculation of the percentage of companies classified as manipulator companies, gray companies, non manipulators:

Table 9. TATA Calculation Results

Manipulator	=	11	x	100%	=	0,00%
				100		
Grey Company	=	2	x	100%	=	0,00%
				100		
Non Manipulator	=	100	x	100%	=	100,00%
				100		

Source: Data processed in 2025

Pressure shows that pressure to achieve certain financial or performance targets can arise if companies engage in manipulative accounting practices, including increasing total accruals. Management faced with financial pressure feels compelled to commit fraud to meet these expectations or targets. Opportunity suggests that high or manipulative total accruals can create opportunities for fraud in financial reporting. Managers who have access and control over the accounting process can see opportunities to manipulate accrual numbers with the aim of improving results or hiding underlying financial problems. Rationalization explains that management involved in fraud related to total accruals can rationalize their actions on the grounds that they are trying to improve the company's image or protect share value by optimizing financial statements. Capability suggests that the ability to manipulate total accruals and financial statements lies with the managers involved in the accounting or financial reporting process. Management that has control over the estimation of accruals and accounting policies can commit fraud. Arrogance suggests that attitudes towards manipulative accounting practices, including the handling of total accruals, can affect organizational attitudes. If there is a negative attitude or dissatisfaction with the company's accounting policies, this can make the organization more vulnerable to justifying fraudulent acts.

Total assets can also have an impact on the fraud pentagon, especially if the manipulation of total assets is done to cover up financial shortfalls or improve the company's performance assessment. An increase in total accruals or manipulation of total assets does not necessarily indicate fraud. However, if there are indications that



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

there are acts of manipulation carried out with the aim of misleading or concealing information, this can be a potential warning for fraud. Strong internal controls, independent external audits, and compliance with applicable accounting standards can help prevent or detect fraud related to total accruals and total assets.

5. Conclusion

Based on the results of research on Financial Statement Fraud Indication Analysis using the Beneish M Score method (Case Study of Customer Goods Companies listed on the Indonesia Stock Exchange for the 2019-2023 Period), it can be concluded that Customer Goods companies listed on the Indonesia Stock Exchange in 2019-2023 on the Days Sales in Receivable Index (DSRI) parameter index classified as manipulators there are 15% with a total of 15 observation data, classified as gray companies there are 20% with a total of 20 observation data, and classified as non-manipulators there are 65% with a total of 65 observation data. In the Gross Margin Index (GMI) parameter index, there are 12% classified as manipulators with 12 observation data, 18% classified as gray companies with 18 observation data, and 70% classified as non-manipulators with 70 observation data.

In the Assets Quality Index (AQI) parameter index which is classified as a manipulator there are 22% with a total of 22 observation data, classified as a gray company there are 28% with 28 company observation data, and classified as non-manipulator there are 50% with a total of 50 observation data. The Sales Growth Index (SGI) parameter index which is classified as a manipulator there are 7% with a total of 7 observation data, classified as a gray company there are 24% with a total of 24 observation data, and classified as a non-manipulator there are 69% with a total of 69 observation data. In the Sales General and Administrative Index (SGAI) parameter index, which is classified as a manipulator, there are 32% with a total observation data of 32, classified as a gray company there are 0% with a total observation data of 0, and classified as non-manipulator there are 68% with a total observation data of 68.

In the Leverage Index (LVGI) parameter index classified as manipulators there are 30% with a total observation data of 30, classified as gray companies there are 15% with a total observation data of 15, and classified as non-manipulators there are 55% with a total observation data of 55. In the Total Accrual to Total Assets (TATA) parameter index, there are 11% classified as manipulators with 11 observation data, 2% classified as gray companies with 2 observation data, and 87% classified as non-manipulators with 87 observation data. According to the Beneish M Score based on the seven (7) parameter indices days sales in receivable, gross margin index, assets quality index, sales growth index, sales general and administrative index, leverage index and total accrual to total assets, it shows that Customer Goods companies listed on the Indonesia Stock Exchange in 2019-2023 have a total of 41% or 41 observation data for manipulator companies, gray companies have 11% or 11 observation data and 48% or 48 observation data for non-manipulator companies.

References

ACFE, I. (2019). ACFE 2019.
Agus Irianto. (2015). Statistik (Konsep Dasar, Aplikasi dan Pengembangannya). Jakarta : Kencana.



INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2 No.: 1

No. E- ISSN: 3025-4086

Anjani, L. (2019). Teori Fraud Triangle dan Corporate Governance Sebagai Pendekripsi Kecurangan Laporan Keuangan. Skripsi. Lampung: Fakultas Ekonomi Dan Bisnis Informatika Dan Bisnis Darmajaya Bandar Lampung., 01(01), 1689– 1699.

Ansori, M. & Salmu Fajri, S. (2018). ‘Pendekripsi Kecurangan Laporan Keuangan Menggunakan Rasio Keuangan Dengan Umur Perusahaan Dan Ukuran Perusahaan Sebagai Variable Kontrol’. *Journal of Applied Managerial Accounting*, 2(2), pp. 141-159.

Aprilia, A. (2017). Analisis Pengaruh Fraud Pentagon Terhadap Kecurangan Laporan Keuangan Menggunakan Beneish Model Pada Perusahaan Yang Menerapkan ASEAN Corporate Governance Scorecard. *Jurnal ASET (Akuntansi Riset)*, 9(1), 101. <https://doi.org/10.17509/jaset.v9i1.5259>

AyemS., WardaniD.K. and Mas'adahL. 2022. Pengaruh Fraud Pentagon terhadap Fraudulent Financial Statement dengan Komite Audit sebagai Variabel Moderasi. *Al-Kharaj : Jurnal Ekonomi, Keuangan & Bisnis Syariah*. 5, 2 (Aug. 2022), 824-842. DOI:<https://doi.org/10.47467/alkharaj.v5i2.1244>.

Beneish, M. D. (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, 55(5), 24–36.

Patmawati, P., & Rahmawati, M. (2023). Deteksi Financial Statement Fraud : Model Beneish M-Score, dan Model F-Score. *E-Jurnal Akuntansi*, 33(1), 34. Fakultas Ekonomi. Univiersitas Sriwijaya.

Purnawati, S. (2018). Deteksi Fraudulent Financial Reporting dengan Menggunakan Beneish Ratio Index dan Predicting Financial Stress dengan Altman Z Score (Studi Empiris pada Perusahaan yang Melakukan Penawaran Saham Perdana (IPO) di Bursa Efek Indonesia Tahun 2013-2015).

Santoso, N. T., & Surenggono. (2018). Predicting Financial Statement Fraud with Fraud Diamond Model of Manufacturing Companies Listed in Indonesia. *State-of-the-Art Theories and Empirical Evidence*, 151– 163. https://doi.org/10.1007/978-981-10-6926-0_9

Septian, D., & Gunawan, R. (2024). -Analisis Indikasi Kecurangan Laporan Keuangan Menggunakan Model Beneish M-Score pada Perusahaan Property dan Real Estate. *Jurnal Penelitian Ekonomi Akuntansi (JENSI)*, 8(1), 38-53.

Sholikhah, A. (2016). Statistik deskriptif dalam penelitian kualitatif. *KOMUNIKA: Jurnal Dakwah Dan Komunikasi*, 10(2), 342-362.

Sihombing, K. S., & Rahardjo, S. N. (2014). Analisis Fraud Diamond Dalam Mendekripsi Financial Statement Fraud: Studi Empiris Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia (Bei) Tahun 2010-2012. *DIPONEGORO JOURNAL OF ACCOUNTING*, 3(2), 657–668.

Skousen, C. J. et al. (2009). Detecting and predicting Financial Statement Fraud. the effectiveness of the fraud triangle and SAS no.99 Corporate Governance and firm Performance.

Sugiyono. (2018). Metode Penelitian Kombinasi (Mixed Methods). Bandung: CV Alfabeta.

Wells, J. T. (2001). Irrational Ratios. *Journal of Accountancy*, 80–84.

Wolfe, D. T., & Hermanson, D. R. (2004). The FWolfe, D. T. and Hermanson, D. R. (2004) „The Fraud Diamond : Considering the Four Elements of Fraud: Certified Public Accountant“, *The CPA Journal*, 74(12), pp. 38–42. doi: DOI:raud Diamond : Considering the Four ElelemWolfe, D. T. and Hermanson, D. R. The CPA Journal, 74(12), 38–42.



Faculty of Economics and Business
Universitas Pamulang

INTERNASIONAL CONFERENCE & CALL FOR PAPER

ECONOMICS, BUSINESS, INNOVATION AND CREATIVITY (EBIC), 30th April 2025

Vol: 2

No.: 1

No. E- ISSN: 3025-4086