UNIVERSITAS WIRARAJA
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT
Kampus : Jl. Raya Sumenep Pamekasan KM. 5 Patean, Sumenep, Madura 69451 Telp : (0328) 664272/673088
e-mail : lppm@wiraraja.ac.id Website : lppm.wiraraja.ac.id

SURAT PERNYATAAN

Nomor : 116/SP.HCP/LPPM/UNIJA/III/2022

Yang bertanda tangan di bawah ini :

Nama : Dr. Anik Anekawati, M.Si
Jabatan : Kepala LPPM
Instansi : Universitas Wiraraja

Menyatakan bahwa :

1. Nama : Arief Hidayatullah Khamainy, S.E., M.Ak.
   Jabatan : Staf Pengajar Fakultas Ekonomi dan Bisnis
2. Nama : Dr. Mahrus Ali, SH., MH.
   Jabatan : Universitas Islam Indonesia
3. Nama : Dr. Muhammad Arif Setiawan, SH., MH.
   Jabatan : Universitas Islam Indonesia

Telah melakukan cek plagiarisme ke LPPM menggunakan *software turnitin.com* untuk artikel dengan judul ***"DETECTING FINANCIAL STATEMENT FRAUD THROUGH NEW FRAUD DIAMOND MODEL: THE CASE OF INDONESIA"*** dan mendapatkan hasil similarity sebesar 11%

Demikian surat pernyataan ini dibuat untuk digunakan dengan sebaik-baiknya.

Sumenep, 29 Maret 2022
Kepala LPPM,

Dr. Anik Anekawati, M.Si.
NIDN. 0714077402

Detecting financial statement fraud through new fraud diamond model: the case of Indonesia

by Arief Hidayatullah K

Submission date: 29-Mar-2022 12:47PM (UTC+0700)
Submission ID: 1795825477
File name: 0714099201-9956-Artikel-Plagiasi-29-03-2022.pdf (440.08K)
Word count: 7934
Character count: 42953

The current issue and full text archive of this journal is available on Emerald Insight at:
https://www.emerald.com/insight/1359-0790.htm

Detecting financial statement fraud through new fraud diamond model: the case of Indonesia

Arief Hidayatullah Khamainy
Faculty of Economics and Business, Universitas Wiraraja, Sumenep, Indonesia, and
Mahrus Ali and M. Arif Setiawan
Department of Criminal Law, Universitas Islam Indonesia, Yogyakarta, Indonesia

Abstract

Purpose – The purpose of this paper is to evaluate the effect of the new fraud diamond model in explaining financial statement fraud.

Design/methodology/approach – The variables used to examine the factors consist of motivation, opportunity, personal integrity and capability. This research used manufactured companies listed in the Indonesia Stock Exchange of the 2015–2019 period as the population.

Findings – There has been a positive influence between personal financial need (OSHIP), nature of the industry (RECEIVABLE) and history of sale (SG) toward financial statement fraud, while the negative effect is found only in the effective monitoring (IND).

Research limitations/implications – The new fraud diamond model theory which is used as a reference in this study is a new and under-developed theory. So the author suggests that further research on this theory be carried out to strengthen the new fraud diamond model theory and ensure whether it can be used as a reference to find out the causes of financial statement fraud. In addition, the object used in this study is limited to manufacturing companies, so the author suggests that further research combine several types of companies

Originality/value – The research finding supports the new fraud diamond model theory in elaborating the financial statement fraud phenomenon.

Keywords Financial statement fraud, Indonesia Stock Exchange, History of sale, Nature of industry, New fraud diamond model, Personal financial needs

Paper type Research paper

1. Introduction

Research conducted by the Association of Certified Fraud Examiners (ACFE, 2020) shows that financial statement fraud only occurs in 10% of all fraud cases, but the average loss is the greatest. Even the difference is larger compared to other forms of fraud, i.e. $954,000.00. This shows the magnitude of the impact of the losses arising from financial statement fraud. In addition, Ernst and Young (2009) also found that more than half of the fraud perpetrators were management. According to Tiffani and Marfuah (2015), financial statement fraud can be defined as fraud committed by management in the form of material misstatements of financial statements that harm investors and creditors. This fraud can be financial or non-financial fraud. Accounting scandals have developed widely, as they have in the USA. Spathis (2002) explains that in the USA, accounting fraud that befell Enron causes enormous losses in almost all industries. The accounting scandal is estimated to cost Enron US$50bn

Journal of Financial Crime
© Emerald Publishing Limited
1359-0790
DOI 10.1108/JFC-06-2021-0118

in losses, plus investors' losses of US$32bn and thousands of Enron employees having lost their pension funds of around US$1bn.

According to Tiffani and Marfuah (2015), Indonesia as a country with unstable economic conditions has also been hit by an outbreak of widespread accounting scandal cases. In 2001, there was a case of fraud in the financial statements of PT Kimia Farma Tbk (PT KF). PT KF is a state-owned company whose shares have been traded on the stock exchange. Based on indications by the Ministry of State-Owned Enterprises and Bapepam auditors (Bapepam, 2002), it was found that there was a misstatement in the financial statements which resulted in an overstatement of net income for the year ended December 31, 2001 amounting to Rp32.7bn, which was 2.3% of sales and 24.7% of net income. This misstatement was carried out by PT Kimia Farma by exceeding sales and inventory in 3 business units and inflating the inventory price that was authorized by the Production Director to determine the inventory value in the distribution unit of PT Kimia Farma as of December 31, 2001. In addition, the management of PT. Kimia Farma has double-recorded sales of two business units. The double recording is carried out in units that are not sampled by external auditors (Koroy, 2008).

In 2004, Bapepam (Capital Market Supervisory Agency) found that PT Pakuwon Jati Tbk had violated Bapepam regulation number VIII.G.7 concerning the presentation of financial statements. Finally, Bapepam gave administrative sanctions in the form of written warnings to Pakuwon Jati Tbk and the company's management (Bapepam in Efitasari, 2013). PT Sari Husada in 2005 was suspected of having violated Article 91 in stock trading. The article states that each party is prohibited from taking action, either directly or indirectly, with the aim of creating a false or misleading picture of the trading party's activities, market conditions or the price of securities on the Stock Exchange. In addition, there were violations of Bapepam regulations related to sharing buyback transactions by management and insiders of PT. Sari Husada Tbk. Finally, Bapepam took certain actions in the form of fines to the commissioners and directors of PT. Sari Husada Tbk (Bapepam in Efitasari, 2013).

Several cases of fraudulent financial statements provide evidence that fraud was committed by top management (Skousen *et al.*, 2009). Weak corporate governance also causes fraudulent financial statements at the company. In Indonesia, several fraud cases were also found in the government, banks and companies. The existence of fraud in financial statements can mislead users of financial statements in making economic decisions. According to Cressey (1953), there are three conditions that cause fraud, namely, pressure, opportunity and rationalization, which are called the fraud triangle. These three conditions are risk factors for fraud in various situations. Research related to the detection of factors causing financial statement fraud mostly uses a fraud triangle analysis and a development model for this theory, for example, the fraud diamond analysis (Wolfe and Hermanson, 2004).

Over time, the theory regarding the fraud triangle continues to develop such as the fraud diamond theory (Wolfe and Hermanson, 2004) which adds a capability factor as the cause of fraud. This theory states that many frauds that generally involve large nominal are unlikely to occur if there is no role of certain people with special capabilities in the company. In other words, the person who commits the fraud must have the capability to recognize the open door as a golden opportunity to take advantage of it. Then, Gbegi and Adebisi (2013) designed a model called the new fraud diamond model which is an evolution of the fraud diamond theory. According to their research, this model can be used as an alternate in analyzing the factors that cause fraud especially financial statement fraud. The difference between the fraud diamond theory and the new fraud diamond model theory lies in the

replacement of the rationalization factor with the personal integrity factor. According to this theory, a person's decision and decision-making process is a condition that can judge a person's integrity. A person, especially a manager, in a company with poor integrity indicates a decision that leads to fraud.

Previous research related to the factors causing financial statement fraud by Tiffani and Marfuah (2015), Manurung and Hadian (2013), Sihombing and Nur Rahardjo (2014) and Manurung and Hardika (2015) shows a different result. The difference between this study and previous research lies in the analysis factor used. This study no longer used the fraud triangle or fraud diamond analysis but used the development of both. The analysis of the new fraud diamond model suggested by Gbegi and Adebisi (2013) was used to analyze the factors that influence fraud, especially financial statement fraud.

2. Theory foundation and hypothesis development

2.1 New fraud diamond model

The new fraud diamond model Gbegi and Adebisi (2013) is a model developed from the fraud diamond (Wolfe and Hermanson, 2004) (Figure 1).

In this model, Gbegi and Adebisi (2013) include personal integrity instead of rationalization. This mainly applies to financial statement fraud because this theory argues that rationalization is not part of corporate governance while the source of pressure (for example, earnings management analysis, sales history and income growth) is more observed. Personal integrity can be observed through the decision and the decision-making process. One's commitment to ethical decision-making is observable and this can help judge one's integrity.

This model further demonstrates corporate governance as the key to all factors leading to fraud. The important aspect of corporate governance is the nature and level of accountability of a person in the organization. Corporate governance is the principles and values that guide an organization in carrying out its daily activities and how stakeholders relate to one another. Gbegi and Adebisi (2013) argue that the motivation of fraud perpetrators, which is one side of the fraud diamond, maybe more precisely expanded and identified by NAVSMICE, with NAVs = national value system, M = money, I = ideology, C = coercion and E = ego.

2.2 Hypothesis development

2.2.1 Financial stability and financial statement fraud. According to SAS No.99 (AICPA, 2002), managers face pressure to commit financial statement fraud when financial stability is threatened by economic conditions, industry and an operating entity. Financial stability is a condition that describes the company's financial instability (Skousen *et al.*, 2009). When a company is facing pressure because financial stability is threatened, management will try to cover the company's financial stability by committing fraud on the financial statements so that the company seems to be able to manage its assets properly and hopes to get a positive response from investors (Tiffani and Marfuah, 2015). Previous research conducted by

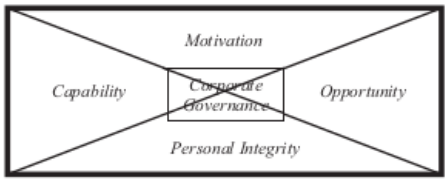

Figure 1. New fraud diamond model

Skousen *et al.* (2009), Manurung and Hardika (2015) Tiffani and Marfuah (2015) show that financial stability has an effect on financial statement fraud. This shows that changes in total assets in a company, especially fluctuating ones, further indicate that the company is in an unstable financial condition and is increasingly vulnerable to creating financial statement fraud:

H1. It is suspected that financial stability has a positive effect on financial statement fraud.

2.2.2 External pressure and financial statement fraud. External pressure is excessive pressure on management to meet the requirements or expectations of third parties. According to SAS No.99, when excessive pressure from external parties occurs, there is a risk of fraudulent financial statements. This is in line with what was stated by Skousen *et al.* (2009) that one of the pressures that company management often experiences is the need to obtain additional debt or external sources of financing to remain competitive, including research financing and development or capital expenditures. The difference in interests between investors, creditors and management creates pressure from external parties on the management, causing the management to provide a good picture of the company's performance as embodied in the company's financial statements. This condition is very vulnerable to manipulation of the company's financial statements. Previous research conducted by Skousen *et al.* (2009), Manurung and Hardika (2015), Tiffani and Marfuah (2015) and Sihombing and Nur Rahardjo (2014) show that the percentage of total debt to total assets has a positive effect on financial statement fraud:

H2. It is suspected that external pressure has a positive effect on financial statement fraud.

2.2.3 Personal financial need and financial statement fraud. Personal financial need is a condition when company finances are also influenced by the financial condition of company executives (Skousen *et al.*, 2009). Tiffani and Marfuah (2015) show that when company executives have a strong financial role in the company, the personal financial needs of the company executives will be affected by the company's financial performance. When company executives also become part of the shareholders, it causes them to feel that they have a claim on the company's income and assets so that it will affect the company's financial condition. The unclear separation between owner and control of the company triggers the managers to arbitrarily use company funds for personal gain (Tiffani and Marfuah, 2015). This is also supported by research conducted by Skousen *et al.* (2009) which shows that the percentage of share ownership by insiders has an effect on financial statement fraud:

H3. It is suspected that personal financial need has a positive effect on financial statement fraud.

2.2.4 Financial target and financial statement fraud. According to SAS No.99 (AICPA, 2002), financial targets are the risk of excessive pressure on management to achieve profit targets set by the board of directors or management, including the goals of receiving incentives from sales or profits. One way to assess manager performance in determining bonuses, wage increases and others is by calculating return on assets (ROA). According to Tiffani and Marfuah (2015), the higher the ROA is targeted by the company, the more prone the management will be to manipulate earnings, which is a form of fraud so that it has a

positive relationship with fraudulent financial statements. This opinion is supported by research conducted by Manurung and Hardika (2015) which states that financial targets have an effect on fraudulent financial statements:

H4. It is suspected that financial targets have a positive effect on financial statement fraud.

2.2.5 Nature of industry and financial statement fraud. Nature of Industry refers to the ideal state of a company, which is related to the emergence of risks for companies engaged in industries that involve significantly larger estimates and considerations. Summers and dan Sweeney (1998) note that accounts receivable and inventory require subjective judgment in estimating uncollectible accounts. So that managers will focus on these two accounts if they intend to manipulate financial statements. Summers and dan Sweeney (1998) examined accounts receivable and inventory, finding that the conditions of inventory and accounts receivable differ between companies that commit fraud and companies that do not commit fraud. Some of these statements are supported by research conducted by Summers and dan Sweeney (1998) and Sihombing and Nur Rahardjo (2014), which show that the nature of the industry has an effect on financial statement fraud:

H5. It is suspected that the nature of the industry has a positive effect on financial statement fraud.

2.2.6 Effective monitoring and financial statement fraud. Supervision is one of the ways companies do to minimize fraud. One form of supervision is by forming a company audit committee. Beasly *et al.* (2010) stated that an audit committee with more members can reduce the incidence of fraud. According to Tiffani and Marfuah (2015), fraud can be minimized, one of which is through a good monitoring mechanism. The audit committee is believed to be able to increase the effectiveness of company supervision. This means that the greater the proportion of independent audit committees, the more effective the supervisory process will be, thereby reducing the potential for management to commit fraudulent financial statements. Several previous studies such as those conducted by Tiffani and Marfuah (2015) and Skousen *et al.* (2009) show that the proportion of members of the independent audit committee (IND) has a negative effect on fraudulent financial statements:

H6. It is suspected that effective monitoring has a negative effect on financial statement fraud.

2.2.7 Earnings management and financial statement fraud. According to Putra (2012), earnings management is any action taken by management that can affect earnings reported in the financial statements. In financial reporting, if a condition occurs where management does not succeed in achieving the specified profit target, management will take advantage of the flexibility allowed by accounting standards in preparing financial statements to modify reported earnings. According to Healy and Wahlen in Manurung and Hadian (2013), earnings management occurs when managers use judgments in financial reporting to manipulate transactions to change financial statements, either to mislead some stakeholders about company performance or to influence contracts that rely on numbers in financial reports. In addition, according to Rezae in Manurung and Hadian (2013), a fraudulent financial statement often starts with a misstatement of earnings management or financial statements that are

considered immaterial but eventually develop into large-scale fraud and results in misleading annual financial reports:

H7. It is suspected that earnings management has a positive effect on financial statement fraud.

2.2.8 History of sales and financial statement fraud. Sales have a strategic effect on a company because the sales made must be supported by assets and if sales are increased, the assets must be added (Brigham and Houston, 2006). According to Chotimah and Susilowibowo (2014), by knowing the sales from the previous year, a company can optimize its existing resources. A positive sales growth ratio indicates that the company can maintain its economic position and its survival. Sales growth also shows the company's ability to market its products. With this, the management will take various ways to display the increase in sales in the financial statements including by committing frauds in the financial statements, which means that the higher the company's sales growth, the higher the level of fraud in the company's financial statements is indicated:

H8. It is suspected that the history of sales has a positive effect on financial statement fraud.

2.2.9 Earnings growth and financial statement fraud. According to Mahaputra (2012), net income (profit) is often used as a measure of performance or as the basis for other measures such as return on investment or earnings per share (earnings per share). In general, the performance of company managers is measured and evaluated based on the profits earned. According to Mahaputra (2012), profit growth is influenced by changes in the components in financial statements. Changes in financial statement components include changes in sales, cost of goods sold, operating expenses, interest expenses, income tax, extraordinary items and others. Changes in earnings can also be caused by external factors such as an increase in prices due to inflation and managerial freedom that allows managers to choose accounting methods and make estimates that can increase profits. With the difference in interests between shareholders and managers, there are times when managers carry out earnings management and even manipulate the components contained in the company's financial statements to illustrate that the company's performance continues to increase or be better than the previous year. In other words, the growth in company profits is thought to have an influence on financial statement fraud:

H9. It is suspected that earnings growth has a positive effect on financial statement fraud.

2.2.10 Change of directors and financial statement fraud. Capability that someone has in the company will affect the possibility of them committing fraud. Wolfe and Hermanson (2004) suggest that a change in the board of directors will cause a stress period that will open up opportunities for fraud. This statement is supported by research conducted by Manurung and Hardika (2015) which shows that change of directors has an effect on financial statement fraud although Sihombing and Nur Rahardjo's research (2014) has different results which show that there is no effect of change of directors on financial statement fraud:

H10. It is suspected that change of directors has a positive effect on financial statement fraud.

2.3 Theoretical framework

The description above can be presented in a theoretical framework as in Figure 2 below.

3. Research methods

3.1 Research population and sample

The population used in this study are manufacturing companies listed on the Indonesia Stock Exchange (BEI). Samples were taken using the purposive sampling method. Based on the sample criteria, a research sample of 60 companies per year was obtained and was used for the period 2015 to 2019 so that the total sample used in this study was 300 samples. Details regarding research sample determination can be seen in the following Table 1.

3.2 Definition and measurement of research variables

3.2.1 Dependent variable. The dependent variable in this study is financial statement fraud (FRAUD). Financial statement fraud can be measured using the Beneish M-Score model according to research by Skousen *et al.* (2009) and Tiffani and Marfuah (2015). In addition, in this study, as a comparison, financial statement fraud was also measured using the probability calculation of financial statement fraud which is the result of research by Kanapickiene and Grondiene (2015).

3.2.1.1 Using the Beneish M-score model. The Beneish M-score was measured using the following eight financial ratios (Table 2).

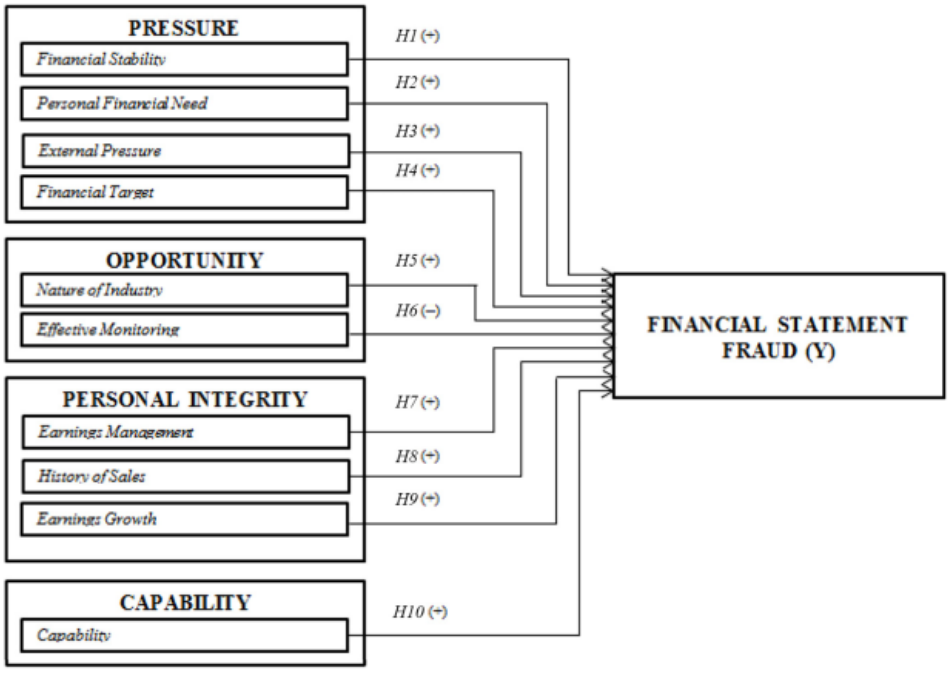

Figure 2. Theoretical framework

After calculating the eight ratios, they were then formulated into the Beneish M-score model formula:

$$\begin{aligned} \text{M} - \text{Score} = & -4.84 + 0.920\,\text{DSRI} + 0.528\,\text{GMI} + 0.404\,\text{AQI} + 0.892\,\text{SGI} \\ & + 0.115\,\text{DEPI} - 0.172\,\text{SGAI} - 0.327\text{LVGI} + 4.697\,\text{TATA} \end{aligned}$$

Table 1. Distribution of research samples

Sample determination criteria	Total
Manufacturing companies listed on the Indonesia Stock Exchange (IDX) consecutively during 2015–2019	120
Companies do not publish a complete annual report on their website or on the IDX website during the research period	(16)
There is no indication of having committed financial statement fraud at least once during the observation period	(44)
The number of samples that meet the research criteria	**60**

Source: Data processing results, 2020

Table 2. Beneish M-score model ratio

No.	Financial ratios	Formula
1	Days sales in the receivable index (DSRI)	$DSRI = \frac{(Net\ Receivables\ t / Sales\ t)}{(Net\ Receivables\ t-1 / Sales\ t-1)}$
2	Gross margin index (GMI)	$GMI = \frac{[(Sales\ t-1 - COGS\ t-1)/Sales\ t-1]}{[(Sales\ t - COGS\ t)/Sales\ t)]}$
3	Asset quality index (AQI)	$AQI = \frac{(TA\ t - (CA\ t + PPE\ t)/TA\ t)}{(TA\ t-1 - (CA\ t-1 + PPE\ t-1/TA\ t-1)}$
4	Sales growth index (SGI)	$SGI = \frac{Sales\ t}{Sales\ t-1}$
5	Depreciation index (DEPI)	$DEPI = \left[\frac{(Depreciation\ t-1/(PPE\ t-1 + Depreciation\ t-1)]}{[(Depreciation\ t/PPE\ t + Depreciation\ t)]}\right.$
6	Sales general and administrative expenses index (SGAI)	$SGAI = \frac{(SG\&A\ Expense\ t / Sales\ t)}{(SG\&A\ Expense\ t-1 / Sales\ t-1)}$
7	Leverage index (LVGI)	$LVGI = \frac{[(Current\ Liabilities\ t + Long\ Term\ Debt\ t)/Total\ Assets\ t]}{[(Current\ Liabilities\ t-1 + Long\ Term\ Debt\ t-1)/Total\ Assets\ t-1]}$
8	Total accruals to total assets (TATA)	$TATA = \frac{(Net\ Income\ from\ Continuing\ Operations\ t - Cash\ Flows\ from\ Operation)}{Total\ Assets\ t}$

Source: Skousen *et al.* (2009)

If the Beneish M-score is greater than −2.22, then the company is categorized as committing fraud. Meanwhile, if the score is less than −2.22, then the company is categorized as not committed fraud (non-fraud).

3.2.1.2 Using the probability of financial statement fraud. The probability of financial statement fraud is measured using four financial ratios that are considered the most vulnerable to fraud to identify whether the company has indications to manipulate its financial statements (Kanapickienė and Grundienė, 2015). The four financial ratios are as follows:

INV/TA = inventories/total assets.
SAL/FA = sales/fixed assets.
TL/TA = total liabilities/total assets.
CACH/CL = cash/current liabilities.

After calculating these four financial ratios, they were then formulated into a logistic regression model formula. The probability of financial statement fraud was calculated based on:

$$P = 1/\left(1 + e^{5.768 - 4.263 \times \mathrm{INV/TA}} - 0.029 \times \mathrm{SAL/FA} - 4.766 \times \mathrm{TL/TA} - 1.936 \times \mathrm{CACH/CL}\right)$$

With P as the probability of financial statement fraud (from 0 to 1), the company was categorized as committing fraud when $P > 50\%$ and not committing fraud when $P < 50\%$.

With these two methods, the sample companies that met the fraud criteria from one and/or both methods were categorized as companies that committed financial statement fraud. Furthermore, companies that committed fraud were scored 1 (one) and those that did not commit fraud (non-fraud) were scored 0 (zero).

3.2.2 Independent variables. The independent variables in this study were variables developed from the four components of the new fraud diamond model, namely, motivation which was proxied by financial stability, external pressure, personal financial need and financial targets, an opportunity which was proxied by the nature of the industry and effective monitoring, personal Integrity which was proxied by earnings management, history of sales and earnings growth and capability. The independent variables and their measurements are presented in Table 3 below.

3.3 Data analysis method

The data analysis technique used to test the hypothesis in this study was a logistic regression model because the dependent variable in this study was a categorical variable (variable dichotomy), giving a value of 1 (one) for companies classified as committing fraud and a value of 0 (zero) for companies classified as not committing fraud. Logistic regression analysis techniques no longer require normality tests and classical assumption tests on the independent variables (Ghozali, 2011).

The logistic regression model used to test the research hypothesis is as follows:

$$\mathrm{FRAUD} = \alpha + \beta_1 ACHANGE + \beta_2 DER + \beta_3 OSHIP + \beta_4 ROA + \beta_5 RECEIVABLE + \beta_6 IND + \beta_7 DACC + \beta_8 SG + \beta_9 EG + \beta_{10} DCHANGE + \epsilon \quad (1)$$

Table 3. Variable operationalization

No.	Variable	Variable measurement
1.	*Financial stability*	$ACHANGE = \frac{Total\ Asset\ t - Total\ Asset\ t-1}{Total\ Asset\ t}$
2.	*External pressure*	$DER = \frac{Total\ Debt}{Shareholder\ Equity}$
3.	*Personal financial need*	$OSHIP = \frac{Total\ shares\ owned\ by\ insiders}{Totals\ of\ ordinary\ shares\ in\ circulation}$
4.	*Financial target*	$ROA = \frac{Profit\ after\ tax\ t-1}{Total\ Asset\ t-1}$
5.	*Nature of industry*	$RECEIVABLE = \frac{Accounts\ receivable\ t}{Sales\ t}\frac{Accounts\ receivable\ t-1}{Sales\ t-1})$
6.	*Effective monitoring*	$IND = \frac{Number\ of\ independent\ audit\ committee\ members}{Total\ number\ of\ audit\ committees}$
7.	*Earnings management*	$DACCit = TACCit/Ait\text{-}1 - NADACCit$
8.	*History of sales*	$Sales\ Growth = \frac{Sales_{it} - Sales_{i(t-1)}}{Sales_{i(t-1)}}$
9.	*Earnings growth*	$Earnings\ Growth = \frac{Operating\ Profit_t - Operating\ Profit_{t-1}}{Operating\ Profit_{t-1}}$
10.	*Change of directors*	DCHANGE = If there was a change in the company's board of directors during the research period, it was coded 1; if there was no change in the company's board of directors during the research period, it was coded 0

Annotations:

FRAUD = dummy variable, code 1 (one) for companies that commit financial statement fraud, code 0 (zero) for those that do not.
α = constant.
β = variable coefficient.
ACHANGE = asset change ratio.
DER = ratio of debt to shareholder equity.
OSHIP = ratio of share ownership in the company.
ROA = return on assets ratio.
RECEIVABLE = ratio of accounts receivable to sales.
IND = independent audit committee ratio.
DACC = *discretionary accruals.*
SG = sales growth.
EG = operating profit growth.
DCHANGE = change of director.
€ = *error term.*

4. Research results

4.1 Data description

Data description provides a description of data seen from the average (mean), standard deviation, the maximum and minimum value of each variable (Ghozali, 2011) (Table 4).

	n	Minimum	Maximum	Mean	Std. deviation
FRAUD	300	0	1	0.57	0.496
ACHANGE	300	−8.33308	0.43077	0.0587770	0.51155857
DER	300	−5.02296	15.97208	1.0784110	1.55721934
OSHIP	300	0.00000	0.46406	0.0325435	0.08105147
ROA	300	−0.61934	0.65720	0.0851750	0.10884799
RECEIVABLE	300	−2.52897	3.27955	0.0085575	0.27150924
IND	300	0.00000	1.00000	0.3058889	0.17160073
DACC	300	−1.75239	0.64882	−0.0044238	0.15347627
SG	300	−0.87578	5.94731	0.1212754	0.42804808
EG	300	−30.86629	239.42301	0.9826062	14.35576135
DCHANGE	300	0	1	0.39	0.488
Valid n (listwise)	300				

Source: Results of data processing, 2020

Table 4. Data description results

4.2 Logistic regression analysis

The first step was to assess the feasibility of the regression model using Hosmer and Lemeshow's Goodness of Fit Test. Based on the results of the Hosmer and Lemeshow test, a chi-square of 6.740 was obtained with a significance level of 0.565. This shows that the model is able to predict the value of its observations or it can be said that the model is acceptable because it fits the observation data.

The second step was to assess the overall regression model that had been hypothesized to be fit or not with the data. The statistics used based on likelihood show that there was a decrease in the value of −2, log-likelihood block number = 0 by 409,989 to 373,171 in the −2 log-likelihood block number = 1 model. This shows that the regression model by including all independent variables is better or in other words, the model hypothesized is fit with the data.

The next step was to test the coefficient of determination (R^2) to measure the ability of the independent variable to explain the dependent variable (Ghozali, 2011). The value of R^2 shows 0.155 which means that only 15.5% of the variation in the dependent variable is financial statement fraud which can be explained by the independent variables used in this study. This shows that the independent variable was low or weak in explaining the dependent variable in this study.

The next step was to examine the effect of each independent variable on the dependent variable (Table 5).

4.2.1 The effect of financial stability on financial statement fraud. The first hypothesis testing shows that the ACHANGE coefficient was −2.33, meaning that financial stability had no significant effect on financial statement fraud. This was probably because the sample companies had a very good level of supervision that monitored and controlled the actions of management that were directly responsible for business functions such as finance, so even though management faced pressure when financial stability was threatened by economic conditions, the industry and the situation of the operating entity would not trigger fraudulent financial statements. The results of this study support the results of research conducted by Skousen (2009), Manurung and Hardika (2015) and Yesiariani and Isti Rahayu (2016).

4.2.2 The effect of external pressure on financial statement fraud. The second hypothesis testing shows the coefficient of external pressure (DER) on the probability of a company

		Variabels in the equation							
								95,0% C.I.for EXP (B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1a	ACHANGE	−0.233	0.345	0.456	1	0.500	0.792	0.403	1.557
	DER	−0.080	0.085	0.904	1	0.342	0.923	0.782	1.089
	OSHIP	4.223	1.966	4.612	1	0.032	68.210	1.446	3,217.262
	ROA	1.650	1.254	1.638	1	0.201	4.978	0.426	58.150
	RECEIVABLE	5.890	2.547	5.346	1	0.021	361.421	2.453	53,256.246
	IND	−1.939	0.789	6.047	1	0.014	0.144	0.031	0.675
	DACC	1.061	1.077	0.971	1	0.325	2.891	0.350	23.888
	SG	2.167	0.716	9.169	11	0.002	8.736	2.148	35.533
	EG	−0.004	0.011	0.105	1	0.745	0.996	0.975	1.019
	DCHANGE	0.340	0.261	1.705	1	0.192	1.405	0.843	2.342
	Constant	0.389	0.340	1.305		0.253	1.475		

Note: variable(s) entered om step 1: ACHANGE, DER, OSHIP, RECEIVABLE, IND, DACC, SG, EG and DCHANGE
Source: Data processing results, 2020

Table 5. Hypothesis test results

committing financial statement fraud was −0.080 which means that external pressure had no significant effect. This result is probably due to several factors including the low average ratio of total debt of the sample companies compared to the companies' shareholder equity so that funding from creditors, which was only 10.78%, did not significantly affect the companies' finances. On the other hand, the higher the loan provided by the creditor, the more supervision the company carries out over its finances. This is because when a creditor provides funding to a company, they would expect repayment of debt and interest from that funding. So the higher the debt, the higher the supervision provided, which, in turn, reduces the risk of financial statement fraud in a company. These results support the results of research conducted by Manurung and Hardika (2015).

4.2.3 The effect of personal financial need on financial statement fraud. The third hypothesis testing shows that personal financial need (OSHIP) on the probability of a company committing financial statement fraud has a coefficient of 4.223, meaning that personal financial need has a positive and significant effect on financial statement fraud. These results indicate that a higher level of share ownership by insiders will result in the risk of financial statement fraud. This study supports the results of previous studies conducted by Skousen *et al.* (2009).

4.2.4 The effect of financial targets on financial statement fraud. The fourth hypothesis testing shows that the coefficient of the financial target (ROA) on the probability of a company committing financial statement fraud is 1.605, meaning that the size of ROA does not have a significant effect on financial statement fraud. This is probably because the ROA ratio in this study was used for short-term goals, even though managers also have to think about long-term programs to increase overall company profits (Yesiariani and Isti Rahayu, 2016). Most of the company's short-term goals are often unable to generate profits for the company as a whole, therefore, the company must review whether the goals it makes can generate overall profits or not for its sustainability (Rachmawati, 2014). These results reveal that no matter how much the given target is, it will not motivate management to manipulate the company's financial statements. These results support the results of previous studies conducted by Skousen, *et al.* (2009), Tiffani and Marfuah (2015), Manurung and Hardika (2015).

4.2.5 The effect of the nature of industry on financial statement fraud. The fifth hypothesis testing shows the coefficient of nature of the industry (RECEIVABLE) on the probability of a company committing financial statement fraud is 5.890, which means that the nature of the industry has a positive and significant effect on financial statement fraud. This result supports Wild's statement in Sihombing and Nur Rahardjo (2014) which states that an increase in the company's receivables from the previous year can be an indication that the company's cash turnover is not good. The number of trade receivables owned by the company will certainly reduce the amount of cash that the company can use for its operational activities. Limited cash can be an impetus for management to manipulate financial statements. A significant increase in trade receivables can be a serious indication of financial stability in a company. If the company wants to attract investors, then one of the efforts to achieve this goal is to manipulate the number of accounts receivable by manipulating the due date to eliminate receivables that have a long collection period. These results also support the results of research conducted by Sihombing and Nur Rahardjo (2014).

4.2.6 The effect of effective monitoring on financial statement fraud. The sixth hypothesis testing shows that the coefficient of effective monitoring (IND) on the probability of a company committing financial statement fraud is −1.939, meaning that effective monitoring has a negative and significant effect on the risk of financial statement fraud. These results indicate that the supervision carried out by an independent committee is one of the effective ways that companies can do to minimize fraud. These results support the statement of Tiffani and Marfuah (2015) which states that the greater the proportion of independent audit committees, the more effective the supervisory process will be, thereby reducing the potential for management to commit financial statement fraud. The results of this study also support the results of previous studies conducted by Skousen, *et al.* (2009) and Tiffani and Marfuah (2015).

4.2.7 The effect of earnings management on financial statement fraud. The seventh hypothesis testing shows that the coefficient of earnings management (DACC) on the probability of a company committing financial statement fraud is 1.061, meaning that the level of earnings management carried out by the company does not have a significant effect on financial statement fraud. This is probably due to management not fully using the flexibility allowed by accounting standards in preparing financial statements to modify reported earnings, which is evidenced by the low average value of discretionary accruals of sample companies, i.e. −0.0044238. Thus, although in this study earnings management had a positive effect, this influence is not significant.

4.2.8 The effect of history of sales on financial statement fraud. The eighth hypothesis testing shows the coefficient of history of sales (SG) on the probability of a company committing financial statement fraud is 2.167, meaning that the sales growth rate in a company has a positive and significant effect on financial statement fraud. These results indicate that when management is faced with unsatisfactory sales results in the previous year's financial statements, it will make every effort to show an increase in the company's net sales the following year. This is done to attract investors and convince creditors to continue providing funding to the company, including by fraudulent means of manipulating its financial statements to show that the company is able to grow, especially in achieving sales growth. Because according to Chotimah and Susilowibowo (2014), when investors and creditors see sales growth, they will assume that the company can optimize its existing resources, maintain its economic position and survival and be able to market its products.

4.2.9 The effect of earnings growth on financial statement fraud. The ninth hypothesis testing shows that the earnings growth (EG) coefficient on the probability of a company

committing financial statement fraud is −0.004, meaning that the level of earnings growth a company does not significantly affect financial statement fraud. These results indicate that the higher the company's profit growth rate, the lower the risk of financial statement manipulation. Because when a company experiences an increase in earnings, management will be more proud to show its actual performance results without manipulation in its financial statements. However, on the other hand, the company's net income is the final result of the computation of the company's comprehensive income statement, so it is possible that management does not use the account to manipulate, but the previous accounts instead such as the company's sales growth.

4.2.10 The effect of change of directors on financial statement fraud. The tenth hypothesis testing shows that the change of directors (DCHANGE) variable on the probability of a company committing financial statement fraud has a coefficient of 0.340, which means that the change of auditors in a company does not have a significant effect on financial statement fraud. The results show that the sample companies change their board of directors not because they want to cover up the fraud committed by the previous board of directors, but the highest stakeholders in the companies want an improvement in their performance by recruiting directors who are considered more competent than the previous ones (Yesiariani and Isti Rahayu, 2016). This result is supported by research conducted by Sihombing and Nur Rahardjo (2014) and Yesiariani and Isti Rahayu (2016).

5. Conclusion and limitations of the research

5.1 Conclusion

Personal financial needs, nature of industry and history of sales have a positive and significant effect on financial statement fraud. This indicates that the more the number of shares owned by the management of the company, the higher the increase in receivables and the increase in sales of the company, which means the more potential for management to commit fraudulent financial statements. Effective monitoring has a negative and significant effect on financial statement fraud. These results indicate that the greater the proportion of independent audit committees, the more effective the monitoring process of the company will be so that it will reduce the potential for management to commit fraudulent financial statements. Financial stability, external pressure, financial targets, earnings management, earnings growth and change of directors do not have a significant effect on financial statement fraud. This means that the six variables are not able to detect potential fraud that occurs in manufacturing companies in Indonesia.

The new fraud diamond model theory which is used as a reference in this study is a new and under-developed theory. So the author suggests that further research on this theory be carried out to strengthen the new fraud diamond model theory and ensure whether it can be used as a reference to find out the causes of financial statement fraud. In addition, the object used in this study is limited to manufacturing companies, so the author suggests that further research combine several types of companies.

References

ACFE (2020), "Report to the nations. Diambil dari", available at: www.acfe.org

AICPA (2002), *Consideration of Fraud in a Financial Statement Audit: Statement on Auditing Standard No. 99*, New York, NY: AICPA.

BAPEPAM (2002), *Pedoman Penyajian Dan Pengungkapan Laporan Keuangan Emiten Atau Perusahaan – Perusahaan Publik*, Jakarta: BAPEPAM.

Beasly, M., Joseph, V., Dana, R. and Terry, L. (2010), "Diambil dari", available at: www.coso.org/documents/COSOFRAUDSTUDY2010_001.pdf

Brigham, E.F. and Houston, J.F. (2006), "Fundamentals of financial management. Tenth edition (manajemen keuangan. Edisi kesepuluh), buku I. Terjemahan dari: Ali akbar yulianto. Jakarta: Salemba empat".

Chotimah, C. and Susilowibowo, J. (2014), "Pengaruh struktur modal, modal kerja dan pertumbuhan penjualan terhadap profitabilitas", *Jurnal Ilmu Manajemen*, Vol. 2 No. 2, pp. 422-433.

Cressey, D.R. (1953), *Other People's Money, Montclair, NJ: Patterson Smith*: 1-300.

Efitasari, H.C. (2013), *Pendeteksian Kecurangan Laporan Keuangan (Financial Statement Fraud) Dengan Menggunakan Beneish Ratio Index Pada Perusahaan Manufaktur Yang Listing di Bursa Efek Indonesia Tahun 2010-2011. Skripsi Program Studi Akuntansi, Fakultas Ekonomi, Universitas Negeri Yogyakarta*, available at: http://eprints.uny.ac.id/id/eprint/17896

Ernst and Young (2009) *Detecting Financial Statement Fraud: What Every Manager Needs to Know*, E and Y LLP, London, pp. 1-8. Diakses dari, available at: www.ey.com

Gbegi, D.O. and Adebisi, J.F.P.D. (2013), "The new fraud diamond Model-How can it help forensic accountants in fraud investigation in Nigeria?", *European Journal of Accounting Auditing and Finance Research*, Vol. 1 No. 4, pp. 129-138.

Ghozali, I. (2011), *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 19*, Semarang: Badan Penerbit Universitas Diponegoro.

Kanapickiene, R. and Grondiene, D.Z. (2015), "The model of fraud detection in financial statament by means of financial ratios", *20th International Scientific Conference Economics and Management. ICEM*, pp. 321-327, doi: 10.1016/j.sbspro.2015.11.545.

Koroy, T.R. (2008), "Pendeteksian kecurangan (fraud) laporan keuangan oleh auditor eksternal", *Jurnal Akuntansi Dan Keuangan*, Vol. 10 No. 1, pp. 22-33, doi: 10.9744/jak.10.1.PP.%2022-23.

Mahaputra, I.N.K.A. (2012), "Pengaruh rasio-rasio keuangan terhadap pertumbuhan laba pada perusahaan manufaktur yang terdaftar di BEI", *AUDI Jurnal Akuntansi Dan Bisnis*, Vol. 7 No. 2, pp. 243-254, doi: 10.24843/JIAB.2012.v07.i02.

Manurung, D.T.H. and Hadian, D.N. (2013), "Detection fraud of financial statement with fraud triangle", *In Proceedings of 23rd International Business Research Conference*.

Manurung, D.A. and Hardika, L. (2015), "Analysis of factors that influence financial statement fraud in the perspective fraud diamond: empirical study on banking companies listed on the Indonesia stock exchange year 2012 to 2014", *International Conference on Accounting Studies (ICAS)*.

Putra, D.S.T. (2012), "Pengaruh independensi, mekanisme, corporate governance, kualitas audit dan manajemen laba terhadap integritas laporan keuangan", *Skripsi Program Studi S1 Akuntansi Fakultas Ekonomika dan Bisnis Universitas Diponegoro*.

Rachmawati, K.K. (2014), "Pengaruh Faktor-Faktor dalam perspektif fraud triangle terhadap fraudulent financial reporting", *Journal of Accounting Fakultas Ekonomika Dan Bisnis. Universitas Diponegoro. Semarang*,

Sihombing, K.S. and Nur Rahardjo, D.S. (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. 3 No. 2, pp. 1-12.

Skousen, J.C., Wright, J.C. and Dan Smith Kevin, R. (2009), "Detecting and predicting financial statement fraud: the effectiveness of the fraud triangle and SAS no. 99", *Corporate and Firm Performance Advances in Financial Economics*, Vol. 13, pp. 53-81.

Spathis, C.T. (2002), "Detecting false financial statements using published data: Some evidence from Greece", *Managerial Auditing Journal*, Vol. 17 No. 4, pp. 179-191.

Summers, S. and Dan Sweeney, J. (1998), "Fraudulently misstated financial statements and insider trading: an empirical analysis", *The Accounting Review*, Vol. 73 No. 1.

Tiffani, L. and Marfuah, D. (2015), "Deteksi financial statement fraud dengan analisis fraud triangle pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia", *Jurnal Akuntansi and Auditing Indonesia*, Vol. 19 No. 2, pp. 112-125, doi: 10.20885/jaai.vol19.iss2.art3.

Wolfe, D.T. and Hermanson, D.D.R. (2004), "The fraud diamonds: considering the four elements of fraud", *CPA Journal*, Vol. 74 No. 12, pp. 38-42.

Yesiariani, M. and Isti Rahayu, D. (2016), "Analisis fraud diamond dalam mendeteksi (studi empiris pada perusahaan LQ-45 yang terdaftar Di bursa efek Indonesia tahun 2010–2014)", *Simposium Nasional Akuntansi XIX*, Lampung, pp. 1-22.

Further reading

Alfiah, E.N. (2013), "Analisis pengaruh leverage, kualitas audit, dan employee dif dalam mendeteksi kecurangan laporan keuangan: Studi empiris pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia tahun 2007-2011", *Skripsi Jurusan Akuntansi, Fakultas Ekonomi Dan Bisnis, Universitas Islam Negeri Sunan Syarif Hidayatullah*, available at: http://repository.uinjkt.ac.id/dspace/handle/123456789/23848

Anugerah, R. (2014), "Peranan good corporate governance Dalam Pencegahan fraud", *Jurnal Akuntansi*, Vol. 3 No. 1, pp. 101-113.

Beneish, M. (1997), "Detecting GAAP violation: implications for assessing earnings management among firms with extreme financial performance", *Journal of Accounting and Public Policy*, Vol. 16 No. 3, pp. 271-309, doi: 10.1016/S0278-4254(97)00023-9.

FASB (1980), *Statement of Financial Accounting Concept No. 1: "Sasaran Utama Pelaporan Keuangan*, FASB, Stamford, CT.

Hanifa, S.I. and Herry Laksito, D. (2015), "Pengaruh fraud indicators terhadap fraudulent financial statement: Studi empiris pada perusahaan yang listed di bursa Efek Indonesia (BEI) tahun 2008-2013", *Diponegoro Journal of Accounting*, Vol. 4 No. 4, pp. 1-15, available at: http://ejournal-s1.undip.ac.id/index.php/accounting

Herusetya, A. (2009), "Pengaruh ukuran auditor dan spesialisasi auditor terhadap kualitas laba", *Jurnal Akuntansi Dan Keuangan Indonesia*, Vol. 6 No. 1, doi: 10.21002/jaki.2009.03. Juni 2009.

IAI (2001), *Standar Audit Seksi 110: Tanggung Jawab Dan Fungsi Auditor Independen*, Jakarta: IAI.

IAI (2007), *Standar Akuntasi Keuangan per September 2007*, Jakarta: Salemba Empat.

Koesmana, D.S., Kristiawan, H. and Rizki, A. (2007), "Peran auditor internal dalam mencegah dan mendeteksi terjadinya fraud menurut standar profesi", *Economic Business and Accounting Review*, Vol. II No. 1, pp. 59-71.

Sam'ani (2008), "Pengaruh good corporate governance dan leverage terhadap kinerja keuangan pada perbankan yang terdaftar di bursa efek Indonesia tahun 2004-2007", *Tesis Magister Manajemen Universitas Diponegoro.*

Sugiyono (2009), *Metode Penelitian Kuantitatif Kualitatif Dan R and D*, Bandung: IKAPI.

Supardi, D. (2008), "Pengaruh prosedur analitis dan pemahaman risiko audit terhadap pengembangan program audit (studi pada beberapa KAP di bandung)", *Bina Ekonomi Majalah Ilmiah Fakultas Ekonomi Universitas Parahayangan Voume*, Vol. 12 No. 1.

Suprajadi, L. (2009), "Teori kecurangan", *Fraud Awareness, Dan Metodologi Untuk Mendeteksi Kecurangan Pelaporan Keuangan", Bina Ekonomi Majalah Llmiah Fakultas Ekonomi Universitas Parahyangan*, Vol. 13 *No.* 2.

Sutikno, I. and Arifin Sabeni, D. (2000), "Evaluasi terhadap relevansi, reliabilitas, dan komparabilitas laporan keuangan: Studi empiris pada perusahaan go public di bursa efek jakarta", *Jurnal Bisnis Dan Akuntansi*, Vol. 2 No. 3, pp. 225-236.

Tuanakotta, T.M. (2012), *Akuntansi Forensik Dan Audit Investigatif Edisi 2*, Jakarta: Salemba Empat.

Widarti (2015), "Pengaruh fraud triangle terhadap deteksi kecurangan laporan keuangan pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia (BEI)", *Jurnal Manajemen Dan Bisnis Sriwijaya*, Vol. 13 No. 2, pp. 229-244.

Wilopo (2012), "Analisis Faktor-Faktor yang berpengaruh terhadap kecenderungan kecurangan akuntansi (studi pada perusahaan terbuka dan BUMN)", *Jurnal Riset Akuntansi Indonesia*.

Corresponding author
Mahrus Ali can be contacted at: mahrus_ali@uii.ac.id

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgrouppublishing.com/licensing/reprints.htm
Or contact us for further details: **permissions@emeraldinsight.com**

Detecting financial statement fraud through new fraud diamond model: the case of Indonesia

ORIGINALITY REPORT

11%	11%	1%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.abacademies.org Internet Source	2%
2	download.atlantis-press.com Internet Source	2%
3	repository.upstegal.ac.id Internet Source	2%
4	ebin.pub Internet Source	1%
5	www.freepapers.ir Internet Source	1%
6	cyberleninka.org Internet Source	1%
7	ejournal.upi.edu Internet Source	1%
8	journals.aserspublishing.eu Internet Source	1%
9	eprints.perbanas.ac.id Internet Source	<1%
10	www.ukessays.com Internet Source	

		<1 %
11	e-journal.unipma.ac.id Internet Source	<1 %
12	eprints.unisbank.ac.id Internet Source	<1 %
13	Pallant, Julie. "SPSS Survival Manual: A Step by Step Guide to Data Analysis using IBM SPSS", SPSS Survival Manual: A Step by Step Guide to Data Analysis using IBM SPSS, 2020 Publication	<1 %
14	elibrary.buse.ac.zw:8080 Internet Source	<1 %
15	www.atlantis-press.com Internet Source	<1 %
16	etd.aau.edu.et Internet Source	<1 %

Exclude quotes	On	Exclude matches	< 10 words
Exclude bibliography	On		