

Fraud Diamond Factors, Risk Management Practices and the Likelihood of Fraud among Financially Distressed Companies Listed on the Malaysian Stock Exchange

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ABSTRACT

Firms have tendencies to manipulate their financial statements when it is at risk of bankruptcy due to financial distress. Based on the Fraud Diamond Theory, there are four factors that motivate firms to perpetrate fraud, namely pressure, opportunity, rationalization and capability. Therefore, this study investigated the effect of these fraud diamond factors on the likelihood of fraudulent financial reporting among financially distressed firms in Malaysia. In addition, this study investigated whether the new amendment of code of corporate governance on risk management practices can mitigate the effect of these four factors on the likelihood of fraudulent financial reporting. Based on a sample of 53 financially distressed firms from 2014 until 2019, this study found that two fraud diamond factors which are pressure and capability significantly influenced firms' financial distress and thus influenced the likelihood of fraud. The study found that risk management can reduce pressure and thus reduce the likelihood of fraud of financially distressed firms. Meanwhile, distressed firms change directors to replace with competent ones. Nevertheless, the study found that distressed firms may increase their risk disclosures to cover up their distress by changing directors. This study investigated the prevalence of fraud among distressed firms. Furthermore, it extends the literature of risk management among distressed firms.

Keywords: fraud, fraud diamond, risk management, financial distress

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INTRODUCTION

According to the Malaysian Stock Exchange listing requirements and rules, a listed firm that lacks a core business or has fallen short of the required minimum capital, equity, and shareholder money would be labelled as a financially distressed firm, or PN17 Company (Ismail et al., 2020). An entity that is in financial difficulty of continuing their business or experiencing financial distress tend to show the firms' good condition by manipulating their financial statements and are thus involved in fraudulent financial reporting (Zakaria et al., 2012). Financial reporting fraud is the deliberate misstatement or omission of quantities or disclosures with the purpose of deceiving users. It can have a worsening effect on investors and the stability of the global economy. According to Kartikasari and Irianto (2010), a company will manipulate the financial statements when the company is at risk of bankruptcy. Demirkan and Platt (2009) stated that the final stage of a firm's downfall is financial distress, followed by major events such as bankruptcy, liquidation, insolvency which eventually might lead to financial statement manipulation such as fraud. A corporation in financial distress often has a motive to commit fraud (Arshad et al., 2015) and thus has a higher tendency to be involved in fraud.

Therefore, it is important to understand what leads to fraud. Understanding the causes of fraud may enable owners or top management to take proactive steps to delay or avoid bankruptcy (Norziaton & Hafizah, 2019). There are few theories that explain the causes of fraud, one of which is the Fraud Triangle Theory (FTT) introduced by Cressey in 1953. In the FTT, there are three factors that can cause someone to commit fraud, namely pressure, opportunity, and rationalization. The Theory was then expanded by Wolfe and Hermanson (2004) by presenting the Fraud Diamond Theory (FDT). In the FDT, an element named capability was added. Fraud has been studied from many different perspectives ranging from fraud risk management (Apostolou et al., 2001; Chen et al., 2015; Hess & Cotrell, 2016) to fraud detection (Cleary & Thibodeau, 2005; Hoffman & Zimbelman, 2009). Previous research has also investigated the relationship between fraudulent financial reporting and firm characteristics that are size, types of ownership and types of auditors (Ahmad, 2009). Research on FDT with the detection of fraud in financial statements has been carried out by Manurung and Hardika (2015). The results showed that

only capability influences positively against financial statement fraud while others have no effect. Indriani and Terzaghi (2017) showed that financial statement fraud is influenced by companies' financial stability and nature of industry. Previous researches also focused on the relationship between FDT and board size and ethical values (Said et al., 2017), FDT and internal auditor awareness (Ghazali et al., 2014), earning management practices and internal control systems (Sulaiman et al., 2014) and ineffective supervision (Rahman, 2020). Despite the broad studies on the FDT, studies that related FDT with the likelihood of fraud among financially distressed companies are few. Thus, the first objective of this study was to investigate the effect of fraud diamond factors on the likelihood of fraud in financially distressed companies in Malaysia.

In addition, the Securities Commission of Malaysia (SC) issued a new Malaysian Code on Corporate Governance 2012 (MCCG 2012) focusing on strengthening board structure and composition recognizing the role of directors as active and responsible fiduciaries. The Code also recommends for the companies to establish a clear framework on risk management. In addition to this code, the Bursa Malaysia has also introduced the Guidelines for Risk Management and Internal Control. The statements which known as The Statement on Risk Management & Internal Control: Guidelines for Directors of Listed Issuers (Guidelines) was published on 31st December 2012. The purpose of the guidelines is to help directors in preparing appropriate disclosure on risk management and internal control aspects in their annual report.

In the context of risk management, the MCCG 2017 introduces several substantial changes and recommendations with a view of raising the standards of corporate governance of companies in Malaysia. Among the recommendations is establishing a Risk Management Committee which comprises a majority of independent directors to oversee a company's risk management framework and policies and its implementation. This step is a step-up practice consistent with the approach under the first version of the MCCG code in 2000 which requires the Board to focus on the role of the Board in managing risks.

However, it is doubtful if the use of the MCCG from 2012 to 2017 has been successful in preventing fraud from happening given the rise in

corporate fraud cases (Alabede, 2016; Ali & Nasir, 2018). Studies on the effect of the new amendment of risk management practices with the FDT are currently not given adequate attention by researchers. Thus, this study investigated whether risk management can reduce the likelihood of fraud and mitigate the negative effect of fraud factors on the likelihood of fraud among financially distressed companies.

The remainder of this paper is as follows. Section 2 discusses the FDT and the hypotheses to be tested. Section 3 discusses the research methodology and how the variables were measured. Section 4 reports the findings and finally, Section 5 reports the conclusion and outlines the study's main limitations and prospects for future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Fraud and the Fraud Diamond Theory

In the fraud diamond theory, one of the important factors that can trigger fraudulent financial reporting is pressure. Some companies which commit fraud, are companies that face external pressures to obtain financing and also high financial targets. To commit fraud, someone might be in a financial stress or other types of pressure. Being under pressure will increase the likelihood of committing fraud (Suyanto, 2009; Aidafitri & Arta, 2014).

According to Bishop et al. (2017), pressure can come from the individual himself, and internal and external strength that will trigger to manipulate financial performance. Some examples of pressures are financial needs, the need to perform better, work frustration, or company's target. Skousen et al. (2008) stated that economic motives always appear in companies that commit fraud, such as profit target, growth maintenance, bonus deductions or poor performance evaluations. These pressures invite a person to manipulate financial statements to make them look better than reality. Hudayati et al. (2022) aimed to analyse the effect of financial targets measured by changes in assets and found that financial targets have a significant positive effect on financial statement fraud. Huang et al. (2017) found that pressure is the strongest trigger among the four factors in the

fraud triangle model. Pressure can be explained by proxies which can be used to measure fraudulent financial reporting such as financial stability external pressure, financial targets, and personal financial needs (Skousen, et al. 2008). Previous research has reported that pressure from outside parties can affect financial statement fraud (Tiffani & Marfuah, 2015; Skousen et al., 2008; Sari, 2016; Widarti, 2015). Based on this argument, we hypothesized that:

H₁: There is a positive relationship between pressure and the likelihood of fraud

Meanwhile, opportunities refer to the belief that fraudsters can commit fraud without being caught because of internal weaknesses of control such as poor security on properties, lack of supervision or separation of duties (Omar et al., 2017). Opportunities exist when no surveillance or monitoring practices are implemented, or when weaknesses are indicated in the part of management to prevent opportunities for potential fraudsters (Ramos, 2003). Inadequate supervision, poor separation of duties, lack of management approval, or weak system control are examples that may provide opportunities that may result in fraud among employees (Sanusi et al., 2015). Therefore, a well-built internal control system is needed to lower the opportunity for someone to commit fraud. Undeniably, opportunity can lead to intention that influences or causes someone to commit fraud. Therefore, we hypothesized that:

H₂: There is a positive relationship between opportunity and the likelihood of fraud

The rationalization component of the Fraud Diamond is one of the most difficult component to measure because it is related to one's behavior and character (Skousen et al., 2009). Rationalization is defined as to legitimize a manner or concept that is incompatible with one's belief (Slezak, 2013). For example, employees who commit fraudulent financial statements may believe that their actions are in the best interest of the firms. Fraudsters rationalize their actions in a variety of ways that may include blaming others, understating their own actions, complaining that they were forced by factors outside of their own control, underplaying the seriousness or impact of their actions, questioning the mores that forbid the act, or referencing others who

have already committed such an act (Rossouw et al., 2000). Banjarnahor (2022) found that rationalization does affect fraudulent financial statements. There is an effect of auditor changes to fraudulent financial reporting. The firm should not change auditors frequently and auditor turnover conduct fraudulent financial reporting. Thus, we hypothesized that:

H₃: There is a positive relationship between rationalization and the likelihood of fraud

In term of capability, the Theory highlights that fraudulent practices or fraud can be minimized either by a better supervision mechanism. Beasley (1996) concluded that the inclusion of board members who come from outside the company can improve the effectiveness of the board in overseeing management to prevent fraudulent financial statements. Albrecht et al. (2010) stated that fraud is more common in smaller companies that have external board members. Companies that have a weak corporate governance, dominated by insiders and tend not to have an audit committee have experienced the highest incidence of fraud. The proportion of the external board members are expected to contribute effectively to the results of the company's financial reporting process quality or avoid fraudulent manipulation of financial statements. Amara et al. (2013) showed that the proportion of independent board members negatively affected financial statement fraud. Purwanti et al. (2022) discovered the link between changes of directors on the frequency of fraudulent financial reporting and they found that replacement of directors has no impact on fraudulent reporting. Consistent with previous studies, we hypothesized that:

H₄: There is a negative relationship between capability and the likelihood of fraud

Risk Management and Likelihood of fraud

Risk management encompasses financial, operational, social and other unsystematic risks. Sawal, Zakaria, and Abdullah (2015) examined the effect of financial difficulties faced by 175 PN17 firms based on material released by Bursa Malaysia from 2001 to 2012. The results of their study showed that default risk and financial distress have a significant and negative effect on firm performance. In addition, corporate governance monitoring was able

to curb default risk and financial reporting quality (Zakaria et al., 2012) that the public relies upon. This is crucial as higher financial reporting quality is commonly associated with better firm performance.

Previous studies also found that risk management serves as a risk-mitigating tool in the investment decision-making process. Bhuiyan et al. (2020) examined the association between the existence of a risk committee in a firm and financial reporting quality. Their results indicated that the existence of a risk committee reduces the discretionary accruals; this means the financial reporting quality improves when a risk committee is in operation.

Malaysian listed companies are still struggling with improper implementation of risk management practices. Hameed et al. (2020) examined the audit effectiveness in mitigation of risk management implementation problem and its effect on financial performance. They found that external audit effectiveness and internal audit effectiveness had a significant positive relationship with risk management implementation. However, top management stress had a significant negative relationship with risk management implementation. Additionally, a risk management implementation system had a positive effect on financial performance of companies.

Shonhadji and Maulidi (2022) conducted a case study on a risk management control system at an Indonesian local government. They discovered that risk assessment and monitoring activities are efficient ways to manage an organization's operations and may be able to identify potential fraud concerns, which could hinder the attainment of organisational goals. An organization's failure to do risk assessment properly will result in fraud risks that are not known. The effectiveness of detecting fraud increases with the level of risk assessment detail.

Hermawan and Novita (2021) aimed to determine the effect of corporate governance, risk management, and compliance with applicable regulations on efforts to minimize the potential fraud based on the Fraud Pentagon concept in Indonesia. The results showed that the corporate governance and risk management had a significant effect on the efforts to minimize potential fraud. It was agreed that the implementation of risk

management can minimize the occurrence of fraud. Due to the role of risk management, we hypothesized that:

H₅: Risk management moderates the relationship between fraud factors and the likelihood of fraud.

RESEARCH METHODOLOGY

Sample Selection

Our sample consisted of all Malaysian firms that were listed in the PN17 list companies from 2014 until 2019, which consisted of 53 companies. For the purpose of this study, we collected data from annual reports of 53 PN17 companies from 2014 to 2019 and balanced panel data analysis was run based on 168 firm-year observations. PN17 was chosen as a proxy for likelihood of fraudulent financial reporting as PN17 companies are defined as financially distressed companies which have deficit in their shareholders funds and thus do not justify continuing trading and/or listing in the Bursa Malaysia stock exchange.

We choose the years 2014-2019 to compare the practices of risk management among the companies to see the effect of before and after the Malaysian Code of Corporate Governance 2017. Therefore, our initial sample consisted of 318 observations. We then excluded 121 observations due to non-disclosure of risk management practices. We also excluded 29 observations due to missing data on the control variables. Thus, our final sample consisted of 168 observations. The distribution of observations is presented in Table 1. Industry details are presented in Table 2.

Table 1: Sample Selection

Description	Number of observations
Initial sample (53 x 6 years)	318
(-) non-disclosure of risk management practices	(121)
(-) missing data of control variables	(29)
Final Sample	168 observations

Table 2: Percentage PN17 Companies (2014 to 2019)

No	Industries	No. of companies	Percentage (%)
1	Industrial products	23	43
2	Consumer products	14	26
3	Energy	6	11
4	Trading/ Services	3	6
5	Property	2	4
6	Telecommunication	2	4
7	Medical and Health	1	2
8	Technology	1	2
9	Financial Services	1	2
Total		53 firms	100

Data Collection and Variables Measurements

The dependent variable used in this study was the likelihood of fraud which were proxied by the PN17 status of financially distressed companies. The status was used as the dummy variable and scored as 1 if the companies were listed as PN17 within the year 2014-2019 and 0 if within the years it was delisted from the list of PN17 companies. The independent variables in this study were the cause of fraud derived from the fraud diamond theory consisting of pressure, opportunity, rationalization and capability.

Pressure was proxied using financial stability. The absence of financial stability increases pressure and will lead someone to commit fraud. Kassem and Higson (2012) and Lou and Wang (2009) found that financial instability that is showed by lower growth of asset affects fraudulent financial reporting. Thus, financial stability was measured by dividing the changes of total assets with total assets in the previous year (Fathmaningrum & Anggarani, 2021). Opportunity was proxied using the quality of external auditors (Fathmaningrum & Anggarani, 2021). It is argued that using a good quality external auditor will decrease the probability of fraudulent financial reporting, since good quality auditors may detect fraud easily. Thus, opportunity was measured by using a dummy variable, 1 was given for a company that used a Big 4 Auditor and 0 was given for a company that used a non-Big 4 Auditor.

Rationalization was proxied using the changes of auditors (Sabrina et al., 2020). When this happens, perpetrators cannot rationalize their actions,

since their action will be detected by the new independent auditor. Thus, it can be inferred that rationalization, proxied by changes in auditor, affects fraudulent financial reporting. Lou and Wang (2009) in Taiwan found that a change of auditor affects fraudulent financial reporting. A dummy variable was used to measure rationalization. 1 was given when there was a change in auditor during 2014-2019, and 0 was given when there was no change in auditor during 2014-2019. Capability was proxied using the changes in director (Yendrawati, 2019). Thus, capability was measured by using a dummy variable, 1 was given for a company when there was a change in director during 2015-2018 and 0 was given when there was no change in director during 2015-2018. According to Rengganis et al. (2019), changes in directors are generally related to political intentions and interests that may trigger firms' conflict of interest and thus could create fraud (Wolfe & Hermanson, 2004).

Risk management practices was measured using the disclosure of risk operations and activities by the companies. The data was collected through the disclosure in the annual report of each company. For the purpose of this variable, we used four proxies which were first, coded as 0 for non-disclosure of risk management practices, 1 if the companies disclosed that they have implemented risk management without any disclosure of any activities, 2 for disclosure of risk management practices and conduct risk management meetings and 3 for disclosure of risk management practices and have established a risk management committee. Table 3 provides the operational definition of variables used in this study.

Table 3: Operational Definition of Variables

Variables	Symbol	Operationalization	Sources/ citation
Dependent variable			
Likelihood of fraud due to financial distress	LFRAUD	A dummy variable with a value of one if the company was listed as PN17 within the year 2014-2017 and 0 if otherwise	
Independent variables			
Pressure	PRESSURE	changes of total assets divided by total assets in the previous year	Fathmaningrum & Anggarani (2021)
Opportunities	OPPORTUNITIES	A dummy variable with a value of one if the company used a Big 4 Auditor and 0 if otherwise	Fathmaningrum & Anggarani (2021)

Rationalization	RATIONALIZE	A dummy variable with a value of one if there was a change in auditors during 2014-2019, and 0 if otherwise	Sabrina et al (2020)
Capability	CAPABILITY	A dummy variable with a value of one if there was a change in directors during 2014-2019, and 0 if otherwise	Yendrawati (2019)
Moderator Variable			
Disclosure of risk operation and activities disclosed by the companies	RISK_MNGMT	Coded according to level of disclosure: 0 - for non-disclosure of any risk management practices 1 - for disclosure that they have implemented risk management without any disclosure of any activities 2 – for disclosure of risk management practices and conduct risk management meetings 3 - for disclosure of risk management practices and have established a risk management committee	
Control Variables (Financial Indicator)			
Firm Size	FIRM_SIZE	Natural log transformation of total assets	Rahmatika et al. (2019)
Revenue	REVENUE	Natural log transformation of total revenue	Ali et al. (2020)
Leverage	LEVERAGE	The ratio of total debts to total assets	Fathmaningrum & Anggarani (2021)

Data Analysis

We used the following regressions to validate our research objectives. Regression (1) was used to examine the relationship between fraud factors and risk management on the likelihood of fraud in financially distressed companies. Regression (2) was used to examine whether risk management mitigated the relationship between fraud diamond factors and the likelihood of fraud. This was done by interacting all the fraud diamond factors with the risk management variable:

$$LFRAUD_{it} = PRESSURE_{it} + OPPORTUNITIES_{it} + RATIONALIZATION_{it} + CAPABILITY_{it} + RISK_MNGMT_{it} + Control\ Variables_{it} + \varepsilon \tag{1}$$

$$LFRAUD_{it} = PRESSURE_{it} + OPPORTUNITIES_{it} + RATIONALIZATION_{it} + CAPABILITY_{it} + RISK_MNGMT_{it} + PRESSURE_{it} * RISK_MNGMT_{it} + OPPORTUNITIES_{it} * RISK_MNGMT_{it} + RATIONALIZATION_{it} * RISK_MNGMT_{it} + CAPABILITY_{it} * RISK_MNGMT_{it} + Control\ Variables_{it} + \varepsilon \tag{2}$$

This study used a panel data approach. Due to the cross-sectional time-series effects, panel data is a more appropriate method than pooled ordinary least square, which ignores the panel structure of the data and treats observations as being serially uncorrelated for a given firm, with homoscedastic errors across firms and periods. Fixed effect panel data control is used for omitted variables that differ between cases but are constant over time (Balsari et al., 2011).

RESEARCH FINDINGS AND DISCUSSION

Descriptive Analysis

Table 4 presents the descriptive statistics for the variables that we used. Our analysis in Panel A reveals that 51.8 percent of the observations indicated the likelihood of fraud which means that within the period investigated, our sample showed 51.8 percent tendency of fraud due to classification of PN17. The results for the fraud diamond factors showed that the mean for pressure represented by asset growth was -0.093 with a maximum value of 7.611 and a minimum value of -9.384. The result indicated that in average, the observations had a negative growth of assets which led to financial instability. Only 20.8 percent of the observations used a Big-4 auditor, 13.1 percent changed the auditor and 60.7 percent changes directors during the period. The mean for risk management was 1.625 which indicated that in average the firms have implemented risk management without any disclosure of any activities. Panel B of Table 4 tabulates the descriptive results for the control variables of financial indicators. The average firm size was 18.067

which was equal to RM417 million worth of total assets with a maximum value of RM5,140 million of total assets and a minimum value of only RM10,622. The mean (medians) for revenue and leverage were 16.849 (17.414) and 1.813 (0.618). The result highlighted that the average revenue during the conditions of likelihood of fraud were lower than its median, while the average leverage of likelihood of fraud firms were higher than its median. Panel C of Table 4 indicates that in average, the firms had 7 board of directors and only 51.6 percent of independent directors. It highlighted that most of the firms did not comply with the requirement of the MCCG to have a majority of independent directors.

Table 4: Descriptive Analysis

	Mean	Median	Maximum	Minimum	Std. Dev.
Panel A: Main Variables					
LFRAUD	0.518	1.000	1.000	0.000	0.501
PRESSURE	-0.093	-0.063	7.611	-9.384	1.062
OPPORTUNITIES	0.208	0.000	1.000	0.000	0.407
RATIONALIZATION	0.131	0.000	1.000	0.000	0.338
CAPABILITY	0.607	1.000	1.000	0.000	0.490
RISK_MNGMT	1.625	1.000	3.000	0.000	0.873
Panel B: Control Variables (Financial Indicator)					
FIRM_SIZE	18.067	18.538	22.411	9.271	2.822
REVENUE	16.849	17.414	21.728	7.139	2.817
LEVERAGE	1.813	0.618	119.154	0.002	9.283
Panel C: Control Variables (Corporate Governance Variables)					
BOD_SIZE	6.833	7.000	15.000	3.000	2.058
PERC_INDEP	51.597	50.000	100.000	14.286	15.624

From our data, 56 percent of the sample firms disclosed that they had implement risk management without any disclosure of risk activities, meanwhile 17 percent of them disclosed that they had conducted risk management meetings. In addition, 23. 5 percent of the sample firms had established risk management committees. Although the sample firms were filtered, there were still 3.5 percent of firms that did not consistently disclose their risk management activities. Figure 1 below tabulates the level of risk management disclosure among the sample.

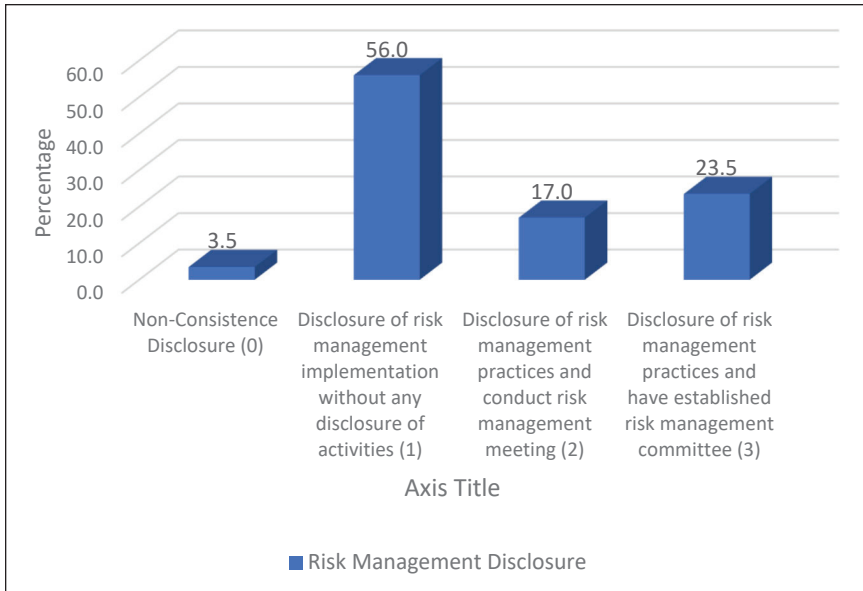


Figure 1: Level of Risk Management Disclosures among the Sample

Univariate Analysis

We performed univariate analysis to compare the mean and median of the variables between the year the firms that were listed as a likelihood of fraud firms and the year the firms were non-likelihood of fraud firms. The results as in Table 5 indicated that there were significant differences of growth of assets between the years during the year listed as financially distressed and the year as non-financially distressed. The result highlighted that there were significant differences of pressure between the year the firms were listed as financially distressed firms and the year the firms were not listed as financially distressed firms. The result also indicated that there were significant differences of revenue and leverage between the years using the Mann-Whitney test. Nevertheless, there were no significant differences between the years in terms of other variables. The findings are interesting as we found evidence that financially distressed firms are mostly influenced by its financial characteristics. Therefore, we performed a multivariate analysis to look for more evidence on the relationship between the variables.

Table 5: Univariate Analysis

	FINANCIAL DISTRESS (LIKELIHOOD OF FRAUD) (N=87)		NON-FINANCIAL DISTRESS (NON-LIKELIHOOD OF FRAUD) (N=81)		t-test	Mann-whitney
	Mean	Median	Mean	Median		
Panel A: Main Variables						
<i>PRESSURE</i>	-0.238	-0.162	0.062	0.034	0.043	0.000
OPPORTUNITIES	0.184	0.000	0.235	0.000	0.223	0.222
RATIONALIZATION	0.161	0.000	0.099	0.000	0.287	0.286
CAPABILITY	0.621	1.000	0.593	1.000	0.475	0.473
RISK_MNGMT	1.586	1.000	1.667	1.000	0.735	0.434
Panel B: Control Variables (Financial Indicator)						
<i>FIRM_SIZE</i>	18.055	18.177	18.081	18.893	0.831	0.542
REVENUE	16.512	16.655	17.210	18.151	0.155	0.012
LEVERAGE	1.689	0.993	1.947	0.502	0.245	0.000

Correlation Analysis

Table 6 tabulates the correlations analysis for the variables used in this study. The result indicated that there is negative and significant correlation between *LFRAUD* and *PRESSURE* using both ordinary (-0.142, $p < 0.10$) and spearman correlation (-0.491, $p < 0.01$), indicating that the higher pressure proxied by lower growth of assets leads to a higher likelihood of fraud. The correlation of the other independent variables with *LFRAUD* were all insignificant. For control variables, the result indicated that there is significant relationship between *REVENUE* and *LEVERAGE* with *LFRAUD* using Spearman correlations at $p < 0.01$ with the value of coefficient -0.229 and 0.433 respectively. The result highlighted that likelihood of fraud companies are characterized as having a lower revenue and higher leverage. Overall, the correlations between variables suggested that there is no serious multicollinearity issue. We also ran the Variation Inflation Factor (VIF) to evaluate the problem of multicollinearity. The result of VIF indicated that all the values of the variables were below 10; indicating that multicollinearity was not a serious problem in this study.

Table 6: Correlation Analysis

Correlation	1	2	3	4	5	6	7	8	9					
Panel A: Main Variables														
FAILURE	1	1.000	----	-0.491	***	-0.062	0.092	0.029	-0.076	-0.073	-0.229	***	0.433	***
PRESSURE	2	-0.142	*	1.000	-----	0.088	-0.099	-0.045	-0.074	-0.047	0.000	0.000	-0.266	***
OPPORTUNITIES	3	-0.062	0.010	1.000	----	1.000	-0.112	0.083	0.014	0.212	***	0.104	0.020	0.020
RATIONALIZATION	4	0.092	-0.033	-0.112	1.000	----	1.000	----	-0.003	-0.028	-0.006	-0.006	-0.030	-0.030
CAPABILITY	5	0.029	0.099	0.083	0.095	1.000	0.015	1.000	0.015	0.037	-0.046	-0.046	0.017	0.017
RISK_MINGMT	6	-0.046	-0.044	0.019	-0.015	0.017	1.000	-----	1.000	0.048	0.027	0.027	0.066	0.066
Panel B: Control Variables (Financial Indicator)														
FIRM_SIZE	7	-0.005	0.013	0.077	0.002	0.068	-0.031	1.000	----	1.000	---	0.734	***	-0.101
REVENUE	8	-0.124	0.052	0.033	-0.025	0.009	0.001	0.806	***	1.000	-----	1.000	-----	0.079
LEVERAGE	9	-0.014	0.057	-0.030	-0.032	-0.088	-0.052	-0.251	***	0.025	1.000	-----	1.000	-----

Multivariate Analysis

Table 7 presents our main regression results. We present model 1 and 2 of equation 1 to show the effect of the independent variables on the likelihood of fraud with and without control variables. Model 1 shows the results without control variables and model 2 with control variables. The result for both models indicated that there was significant negative relationship between *LFRAUD* and *PRESSURE* ($-0.166, z=-1.704, p<0.10$). This finding supports our hypothesis H_1 that financial instability represented by lower growth of assets leads to higher pressure and thus leads to a higher likelihood of fraud. Nevertheless, other factors of the fraud diamond theory are insignificant. The result for the control variables indicated that the likelihood of fraud firms PN17 are characterized as large firms and lower revenue as *FIRM_SIZE* was significantly positive ($0.171, z=2.379, p<0.05$) and *REVENUE* was significantly negative ($-0.196, z=-2.746, p<0.01$).

Since pressure in this study was measured by financial instability, the results highlighted that financial pressure was the main reason behind why the firms failed and thus listed as PN17 companies. As pressure is one of the fraud factors in the fraud diamond theory, the results stressed that pressure may become the antecedent for the likelihood of firms to commit fraud. Mansor and Abdullahi (2015) stressed that when the perpetrator of fraud believes that he is under pressure, that belief is enough to force him to commit fraud. In the fraud diamond theory, pressure is the motivation for the fraudsters to commit fraud. When they have this motivation, it may induce the perpetrators to resolve their financial problems by violating their position of financial trust and justify their intention to break that trust (Avortri & Agbanyo, 2020).

Table 7: Regression Analysis (Main Regression)

Model	1	2		
DV	LFRAUD			
INTERCEPT	0.237		0.272	
	1.052		0.385	
PRESSURE	-0.191	**	-0.166	*
	-2.176		-1.704	
OPPORTUNITIES	-0.212		-0.215	
	-0.966		-0.874	

RATIONALIZATION	0.220		0.289	
	0.826		0.956	
CAPABILITY	-0.066		0.058	
	-0.356		0.282	
RISK_MNGMT	-0.044		-0.046	
	-0.428		-0.404	
FIRM_SIZE			0.171	**
			2.379	
REVENUE			-0.196	***
			-2.746	
LEVERAGE			0.014	
			1.119	
McFadden R-squared	0.035		0.059	
LR statistic	9.580	*	13.764	*

For further analysis, we ran a second equation to investigate whether risk management can mitigate the fraud diamond factors on the likelihood of fraud. The results of interaction between risk management and the four fraud diamond factors are presented in Table 8. The results indicated that the likelihood ratio statistic (LR statistic) becomes more significant at the 1 percent level which showed that the model become more robust as we interacted it with risk management. The result for risk management was significantly negative which highlighted the role of risk management to reduce the likelihood of fraud (-0.192 , $z=-2.656$, $p<0.01$) and therefore support our H5. The result is consistent with previous studies which stated that risk disclosures reduce the likelihood of fraud through accurately assessing risks and identifying potential problems in the organizations and hence reduce the likelihood of fraud (Koutopis et al., 2020) and mitigate fraud (Kummer et al., 2014). In this model, the result for the fraud diamond factors are all insignificant except for capability which had a significant negative relationship (-0.1654 , $z=-2.656$, $p<0.01$). In contrast to our hypothesis which hypothesized that capability leads to an increase in the likelihood of fraud, the result revealed that change in directors reduces the likelihood of fraud. It highlights that in the case of PN17 companies in Malaysia, directors use their position to reduce the likelihood of fraud of the firms. The result contradicts a previous study which stated that change

in directors occurs to cover up fraud committed by previous directors (Rengganis et al., 2019). Instead, in this study the results revealed that change of directors happens in order to replace incompetent directors with competent ones and hence improve the performance of the company.

Interestingly, the result for the interaction indicated that risk management mitigates the insignificant effect of financial instability (PRESSURE) on the likelihood of fraud ($-1.173, z=-2.022, p<0.05$). The result indicated that risk management enhances financial stability and thus reduces the likelihood of fraud. The result highlights that financial instability alone does not influence the likelihood of fraud, but with the existence of risk management, firms' financial stability increases and reduces firms' likelihood of fraud. In contrast, the results for the interaction between *CAPABILITY* and *RISK_MNGMT* indicated that risk management enhances capability and thus leads to an increase in the likelihood of fraud ($1.031, z=2.481, p<0.05$). The result suggests that risk management enhances change of directors and thus increases the likelihood of fraud. This situation happens when the firms changes directors to cover up their financial distress by increasing the disclosure of risk management. The findings of this study provide explanation that risk disclosure provided by firms play an important role in coping with hazardous threats (Teller & Kock, 2013), increase shareholder confidence (Koutopis et al., 2020), reduce probability of bankruptcy (Solomon et al., 2000) and hence create value for the companies to be sustainable (Grebe et al., 2016). Nevertheless, previous researches have shown that the quality of disclosure is more important than quantity (Beretta & Bozzolan, 2004; Beck et al., 2010; Hooks & Staden, 2011). To date, risk disclosure has become a step-up practice based on the MCCG. The MCCG 2017 requires firms to establish a clear framework on risk management. However, it is unknown whether the disclosure is the factual disclosure practised by the firms or merely a cosmetic act to show compliance.

Table 8: Regression Analysis (Interaction)

Model	1	2
DV	LFRAUD	
INTERCEPT	1.303	** 1.822
	2.444	1.416
PRESSURE	0.205	0.955

	0.314		1.383	
OPPORTUNITIES	-0.750		-1.029	
	-0.947		-1.089	
RATIONALIZATION	0.739		1.222	
	0.729		1.032	
CAPABILITY	-1.488	**	-1.654	**
	-2.270		-2.187	
RISK_MNGMT	-0.661	**	-0.912	***
	-2.229		-2.656	
PRESSURE*RISK_MNGMT	-0.642		-1.173	**
	-1.338		-2.022	
OPPORTUNITIES*RISK_MNGMT	0.235		0.438	
	0.563		0.813	
CAPABILITY*RISK_MNGMT	0.824	**	1.031	**
	2.334		2.481	
RATIONALIZATION*RISK_MNGMT	-0.209		-0.387	
	-0.371		-0.596	
FIRM_SIZE			0.330	**
			2.427	
REVENUE			-0.379	***
			-2.702	
LEVERAGE			0.020	
			0.983	
McFadden R-squared	0.074		0.119	
LR statistic	19.973	**	27.839	***

CONCLUSION

This study examined the effects of fraud diamond factors on the likelihood of fraud in Malaysia. Moreover, in this study we investigated the effect of risk management practices on the link between fraud diamond factors and the likelihood of fraud. This effect is important to be investigated as a new MCCG 2017 was released by the Securities Commission Malaysia as a step-up practice for the firms listed in Bursa Malaysia to establish a Risk Management Committee which comprises a majority of independent

directors to oversee the company's risk management framework and policies and its implementation.

We found evidence that risk management enhance firms' financial stability of financially distressed firms and hence reduces the likelihood of fraud. The results support that risk management create value (Dilling & Harris, 2018), reduce financial crisis (Gonidakis, Koutoupis, Tsamis, & Agoraki, 2020) and enhances financial performance (Newman, Charity & Faith, 2018). In contrast to our hypothesis, we found that the capability of directors is used to reduce financial distress and the likelihood of fraud. Nevertheless, our result of interaction provided caution to regulators and stakeholders as we found that financially distressed firms may use risk disclosures to cover up the likelihood of fraud by change of directors. Thus, this finding provides a valuable point for future researchers to investigate the quality of risk disclosed by the firms instead of the quantity, for example by linking the independence of risk management committees with risk disclosure practices.

This study highlighted that two significant factors of the fraud diamond theory which are pressure and capability influenced the likelihood of fraud. Thus, it provides useful feedback to regulators in Malaysia to monitor financially distressed firms as the two factors may influence these firms to commit fraud. Even though the distressed firms are not yet fraud firms, the findings highlighted that the two factors of the fraud diamond theory prevail and thus may induce these firms to commit fraud. In addition, the findings also provided suggestions to regulators to consistently promote the benefit of risk management to the firms as it can reduce financial distress and the likelihood of fraud. The current practice of risk management in Malaysia is still low as the evidence showed that risk disclosures among firms is still at the infancy stage even though the MCCG 2017 was introduced a few years back. The quality of risk disclosures of the firms needs to be monitored by regulators to avoid merely cosmetic acts of compliance and to hide financial distress and the likelihood of fraud.

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REFERENCES

- Ahmad, N. (2009). Credit card fraud and the law: A critical study of Malaysian perspectives. *Journal of Information, Law and Technology (JILT)*, 2.
- Aidafitri, F., & Arta, N. (2014). Fraud in government agencies an government official's behaviors: Evidence from the press. In *Enterpreunership and creative Economy in Global Competitiveness, The 2nd International Conference on Business and Economics*. Padang: Universitas Andalas Padang.
- Alabede, J. O. (2016). Effect of Board Diversity on Corporate Governance Structure and Operating Performance: Evidence from the UK Listed Firms. *Asian Journal of Accounting & Governance*, 7, 67–80.
- Albrecht, C., Turnbull, C., Zhang, Y., & Skousen, C. J. (2010). The relationship between South Korean chaebols and fraud. *Management Research Review*, 33(3), 257-268.
- Ali, C. B. (2020). Agency theory and fraud. In *Corporate Fraud Exposed*. Emerald Publishing Limited.
- Ali, M. M., & Nasir, N. M. (2018). Corporate governance and financial distress: Malaysian perspective. *Asian Journal of Accounting Perspectives*, 11(1), 108-128.
- Amara, I., Amar, A. B., & Jarboui, A. (2013). Detection of fraud in financial statements: French companies as a case study. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(3), 40-51.

- Apostolou, B., Hassell, J., Webber, S. & Summers, G. (2001). The Relative Importance of Management Fraud Risk Factors. *Behavioral Research in Accounting*, 13, 1-24.
- Arshad, R., Iqbal, S. M., & Omar, N. (2015). Prediction of business failure and fraudulent financial reporting: Evidence from Malaysia. *Indian Journal of Corporate Governance*, 8(1), 34-53.
- Avortri, C., & Agbanyo, R. (2020). Determinants of management fraud in the banking sector of Ghana: The perspective of the diamond fraud theory. *Journal of Financial Crime*, 28(1), 142-155.
- Balsari, P., & Marucco, P. (2011). The new EU Directives requirements and the innovation in pesticide application techniques.
- Banjarnahor, E. (2022). Analysis of Fraudulent Financial Reporting in The Perspective of Fraud Diamond. Faculty of Economic and Business, Universitas Trisakti, Jakarta, Indonesia.
- Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *Accounting Review*, 443-465.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2010). Financial institutions and markets across countries and over time: The updated financial development and structure database. *The World Bank Economic Review*, 24(1), 77-92.
- Beretta, S., & Bozzolan, S. (2004). A framework for the analysis of firm risk communication. *The International Journal of Accounting*, 39(3), 265-288.
- Bhuiyan, M. B. U., Salma, U., Roudaki, J., & Tavite, S. (2020). Financial reporting quality, audit fees and risk committees. *Asian Review of Accounting*, 28(3), 423-444.
- Bishop, C. C., DeZoort, F. T., & Hermanson, D. R. (2017). Review of recent literature on pressure on CFOs to manipulate financial reports. *Journal of Forensic and Investigative Accounting*, 9(1), 577.

- Cleary, R., & Thibodeau, J. C. (2005). Applying digital analysis using Benford's law to detect fraud: the dangers of type I errors. *Auditing: A Journal of Practice & Theory*, 24(1), 77-81.
- Cressey, D. R. (1953). *Other People's Money*. Montclair, NJ: Patterson Smith.
- Demirkan, S., & Platt, H. (2009). Financial status, corporate governance quality, and the likelihood of managers using discretionary accruals. *Accounting Research Journal*, 22(2), 93-117.
- Dilling, P. F., & Harris, P. (2018). Reporting on long-term value creation by Canadian companies: A longitudinal assessment. *Journal of Cleaner Production*, 191, 350-360.
- Fathmaningrum, E. S., & Anggarani, G. (2021). Fraud Pentagon and Fraudulent Financial Reporting: Evidence from Manufacturing Companies in Indonesia and Malaysia. *Journal of Accounting and Investment*, 22(3), 625-646.
- Ghazali, M. Z., Rahim, M. S., Ali, A., & Abidin, S. (2014). A preliminary study on fraud prevention and detection at the state and local government entities in Malaysia. *Procedia-Social and Behavioral Sciences*, 164, 437-444.
- Gonidakis, F. K., Koutoupis, A. G., Tsamis, A. D., & Agoraki, M. E. K. (2020). Risk disclosure in listed Greek companies: The effects of the financial crisis. *Accounting Research Journal*, 3(4/5), 615-633.
- Grebe, L., Davis, A., & Odendaal, E. (2016). The use of strategy tools by chartered accountants in the South African mining industry. *Journal of Contemporary Management*, 13(1), 843-865.
- Hameed, W. U., Waseem, M., Sabir, S. A., & Dahri, A. S. (2020). Effect of enterprise risk management system and implementation problem on financial performance: An empirical evidence from Malaysian listed firms. *Abasyn Journal of Social Sciences*, 12.

- Hermawan, A., & Novita, N. (2021). The Effect of Governance, Risk Management, and Compliance on Efforts to Minimize Potential Fraud Based on the Fraud Pentagon Concept. *Asia Pacific Fraud Journal*, 6(1), 82-95.
- Hess, M. F., & Cottrell Jr, J. H. (2016). Fraud risk management: A small business perspective. *Business Horizons*, 59(1), 13-18.
- Hoffman, V. B., & Zimbelman, M. F. (2009). Do strategic reasoning and brainstorming help auditors change their standard audit procedures in response to fraud risk?. *The Accounting Review*, 84(3), 811-837.
- Hooks, J., & van Staden, C. J. (2011). Evaluating environmental disclosures: The relationship between quality and extent measures. *The British Accounting Review*, 43(3), 200-213.
- Huang, S. Y., Lin, C. C., Chiu, A. A., & Yen, D. C. (2017). Fraud detection using fraud triangle risk factors. *Information Systems Frontiers*, 19(6), 1343-1356.
- Hidayati, A., Nisa, T. K., & Sanusi, Z. M. (2022). Financial pressure and related party transactions on financial statement fraud: fraud triangle perspective. *International Journal of Business and Emerging Markets*, 14(2), 213-230.
- Indriani, P., & Terzaghi, M. T. (2017). Fraud Diamond Dalam Mendeteksi Kecurangan Laporan Keuangan. *I-Finance*, 3(2), 161-172.
- Ismail, A. M., Xing, W. X., Sadique, R. B. M., & Zakaria, N. B. (2020). Corporate Governance and Earnings Management: Evidence from Financially Distressed (PN17) Companies in Malaysia. *Corporate Governance*, 11(10), 765-789.
- Kartikasari, R. N., & Irianto, G. (2010). Penerapan Model Beneish (1999) dan Model Altman (2000) dalam Pendeteksian Kecurangan Laporan Keuangan. *Jurnal Akuntansi Multiparadigma*, 1(2), 323-340.

- Kassem, R., & Higson, A. (2012). The new fraud triangle model. *Journal of Emerging Trends in Economics and Management Sciences*, 3(3), 191-195.
- Koutoupis, A., Kyriakogkonas, P., & Kampouris, C. (2020). Exploring the interrelation between Corporate Governance and Financial Performance: Evidence from Greek Systemic Banks. *Actual Problems of Economics*, 1(223), 14-25.
- Kummer, T. F., Singh, K., & Best, P. (2014). The effect of fraud on risk management in not-for-profit organizations. *Corporate Ownership & Control*, 12(1), 641-655.
- Lou, Y. I., & Wang, M. L. (2009). Fraud risk factor of the fraud triangle assessing the likelihood of fraudulent financial reporting. *Journal of Business & Economics Research (JBER)*, 7(2), 61-78.
- Mansor, N., & Abdullahi, R. (2015). Fraud triangle theory and fraud diamond theory. Understanding the convergent and divergent for future research. *International Journal of Academic Research in Accounting, Finance and Management Science*, 1(4), 38-45.
- Manurung, D. T., & Hardika, A. 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.
- Marzuki, M. M., Majid, W. Z. N. A., Nur Kamaliah, A. Z. I. S., Rosman, R., & Abdulatiff, N. K. H. (2020). Fraud Risk Management Model: A Content Analysis Approach. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 7(10), 717-728.
- Newman, W., Charity, M., Faith, S., & Ongayi, W. (2018). Literature review on the effectiveness of risk management systems on financial performance in a public setting. *Academy of Strategic Management Journal*, 17(4), 1-12.

- Norziaton, I. K., & Hafizah, S. (2019). Audit committee and financially distressed firms in Malaysia. *International Journal of Accounting*, 4(18), 92-107.
- Omar, N., Johari, Z. A., & Smith, M. (2017). Predicting fraudulent financial reporting using artificial neural network. *Journal of Financial Crime*, 24(2), 362-387.
- Purwanti, A. S., Persada, Y. D., Budianto, R., Suyono, E., & Khotimah, S. (2022). Financial Reporting Manipulation on Mining Companies in Indonesia: Fraud Diamond Theory Approach. *Jurnal Riset Akuntansi Kontemporer*, 14(1), 115-121.
- Rahman, A., Deliana, D., & Rihaney, N. (2020). Detection Of Financial Statement Fraud Triangle (Fraud Triangle) In LQ45 Companies Listed in Indonesia Stock Exchange. *International Journal of Technical Vocational and Engineering Technology (iJTveT)*, 2(1), 70-78.
- Rahmatika, D. N., Kartikasari, M. D., Indriasih, D., Sari, I. A., & Mulia, A. (2019). Detection of Fraudulent Financial Statement; Can Perspective of Fraud Diamond Theory be applied to Property, Real Estate, and Building Construction Companies in Indonesia?. *European Journal of Business and Management Research*, 4(6).
- Ramos, M. (2003). Auditors' responsibility for fraud detection. *Journal of Accountancy*, 195(1), 28-36.
- Rengganis, R. M. Y. D., Sari, M. M. R., Budiasih, I. G. A. N., Wirajaya, I. G. A., & Suprasto, H. B. (2019). The fraud diamond: Element in detecting financial statement of fraud. *International Research Journal of Management, IT and Social Sciences*, 6(3), 1-10.
- Rossouw, G. J., Mulder, L., & Barkhuysen, B. (2000). Defining and understanding fraud: A South African case study. *Business Ethics Quarterly*, 885-895.
- Sabrina, E., Mukhtaruddin, M., & Hakiki, A. (2020). Fraudulent financial reporting: fraud pentagon analysis in banking and financial sector

companies listed in Indonesia Stock Exchange 2016-2018. *Doctoral dissertation*.

Said, J., Alam, M., Ramli, M., & Rafidi, M. (2017). Integrating ethical values into fraud triangle theory in assessing employee fraud: Evidence from the Malaysian banking industry. *Journal of International Studies*, 10(2), 170-184.

Sanusi, Z. M., Rameli, M. N. F., & Isa, Y. M. (2015). Fraud schemes in the banking institutions: Prevention measures to avoid severe financial loss. *Procedia Economics and Finance*, 28, 107-113.

Sari, P. S. (2016). *Faktor-Faktor Yang Mempengaruhi Kecenderungan Kecurangan (Fraud) Akuntansi* (Doctoral dissertation, Fakultas Ekonomi UNISSULA).

Sawal, N. A., Zakaria, N. B., & Abdullah, N. (2015). Financial difficulties and performance among fraudulent firms evidence from Malaysia. *International Journal of Applied Business and Economic Research*, 13(1), 161-175.

Shonhadji, N., & Maulidi, A. (2022). Is it suitable for your local governments? A contingency theory-based analysis on the use of internal control in thwarting white-collar crime. *Journal of Financial Crime*, 29(2), 770-786.

Skousen, C. J., & Wright, C. J. (2008). Assessing fraud risk: how does the oil and gas industry stack up?. *Petroleum Accounting and Financial Management Journal*, 27(2), 61-74.

Skousen, C. J., Smith, K. R., & Wright, C. J. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. In *Corporate governance and firm performance*. Emerald Group Publishing Limited.

Slezak, K. (2013). *Fraud Prevention and Employee Rationalization in New York State Public Schools*. State University of New York at Albany.

- Solomon, J. F., Solomon, A., Norton, S. D., & Joseph, N. L. (2000). A conceptual framework for corporate risk disclosure emerging from the agenda for corporate governance reform. *The British Accounting Review*, 32(4), 447-478.
- Sulaiman, S., Danbatta, B. L., & Rahman, R. A. (2014). Figure massaging practices in Malaysian firms: are they fraudulent?. *Procedia-Social and Behavioral Sciences*, 145, 29-39.
- Suyanto, S. (2009). Fraudulent financial statement: Evidence from statement on auditing standard no. 99. *Gadjah Mada International Journal of Business*, 11(1), 117-144.
- Teller, J., & Kock, A. (2013). An empirical investigation on how portfolio risk management influences project portfolio success. *International Journal of Project Management*, 31(6), 817-829.
- Tiffani, L., & Marfuah, M. (2015). Deteksi financial statement fraud dengan analisis fraud triangle pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia. *Jurnal Akuntansi dan Auditing Indonesia*, 19(2), 112-125.
- Widarti, W. (2015). Pengaruh Fraud Triangle terhadap Deteksi Kecurangan Laporan Keuangan pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (Bei). *Jurnal Manajemen Dan Bisnis Sriwijaya*, 13(2), 229-244.
- Wolfe, D. T., & Hermanson, D. R. (2004). The fraud diamond: Considering the four elements of fraud. *CPA Journal*, 74(12), 38-42.
- Yendrawati, R., Aulia, H., & Prabowo, H. Y. (2019). Detecting the likelihood of fraudulent financial reporting: An analysis of fraud diamond. *Asia-Pacific Management Accounting Journal*, 14(1), 43-68.
- Zakaria, Z., Muhammad, J., & Zulkifli, A. H. (2012). The impact of dividend policy on the share price volatility: Malaysian construction and material companies. *International Journal of Economics and Management Sciences*, 2(5), 1-8.