

# THE INFLUENCE OF FRAUD TRIANGLE FACTORS ON REAL EARNINGS MANAGEMENT

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## Abstract

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This study aims to examine the relationship between factors of pressure, opportunity, and rationalization, and the occurrence of real earnings management among Malaysian public listed companies. The study used a sample of 557 Malaysian public listed companies between 2017 and 2019, comprising a total of 1,671 firm-year observations. Replicating a study by Khanh and Nguyen (2018), but not limited to external governance of audit quality, the study added to the knowledge of real earnings management by taking into account the effect of internal governance such as board independence and multiple directorships. And, following Roychowdhury (2006), real earnings management is measured by abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenditure. The results from regression analysis show that there is a negative and significant association between financial performance, measured by return on assets, and real earnings management. In addition, the results also show that there is a positive and significant association between audit quality, measured by audit firm size, and real earnings management. The findings of this study provide useful insights for the investors to reassess firm corporate governance, and for the regulators to reconsider the current regulations with regard to the practice of real earnings management.

**Keywords:** Earnings Management, Financial Reporting, Corporate Governance, External Audit, Regression Analysis, Malaysia

**Authors' individual contribution:** Conceptualization — S.H.; Methodology — N.O. and S.H.; Formal Analysis — N.O. and S.H.; Writing — Original Draft — N.O., S.H., and A.R.M.H.; Writing — Review & Editing — S.H. and M.M.A.; Supervision — S.H.; Project Administration — S.H. and A.R.M.H.

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## 1. INTRODUCTION

Accounting scandals have caused severe controversy for over decades, and these intensified issues relating to misstatements, such as earnings management and fraudulent financial statement. The exploitation of earnings negatively affects the quality of published financial information, and thus, misrepresents the relationship between reported earnings and stock returns. Such circumstances lead to various issues in terms of resource efficiency in the economy. Also, it may deceive the firm's stakeholders regarding its current and future well-being as financial report plays an important role in the decision-making process (Healy & Wahlen, 1999). According to Mohamed Yusof, Ahmad Khair, and Simon (2015), the financial statement represents management's transparency and productivity in managing financial wealth and spending. In addition, it is considered as a key form of communication with stakeholders, which is through the published annual reports (Stanton & Stanton, 2002). Thus, ensuring the reliability of financial statements is vital.

Generally, investors are attracted to firms with strong and stable income and fast growth. This, in particular, motivate managers to involve in earnings management in order to overstate financial results, especially during critical times (Dang, Hoang, & Tran, 2017; Nasir, Ali, Razzaque, & Ahmed, 2018). Earnings management is described as a breach of accounting standards and regulations, for the firm to have a good financial performance through illegal practices in order to deceive the stakeholders (Kamal, Salleh, & Ahmad, 2016). Although earnings management is permitted up to a certain threshold, over time, it may turn into a fraudulent financial statement, which is a more severe type of misstatement. Investigating real earnings management and properties of analysts' forecasts, Eiler, Filzen, Jackson, and Tama-Sweet (2021) find that real earnings management measures are associated with greater forecast error and dispersion in the following year. And, using a cross-sectional test, they found that firms with low incentives to engage in earnings management generate the strongest positive relationship between real earnings management and following year's analysts' forecast accuracy. Based on the findings, they concluded that analysts fully incorporate the earnings implications of firms that are more likely to engage in aggressive real earnings management. Therefore, earnings management activities, which are labelled as unethical practices in Dugan, Knox, and Taylor's study (2016) should be taken seriously. The underlying motive for earnings management in many financial scandals has greatly affected financial information quality (El Diri, 2018).

In the context of Asia-Pacific, the Association of Certified Fraud Examiner (ACFE) reports have revealed that fraud cases have increased extensively over the recent years and those fraud cases are expected to increase in the future (ACFE, 2020). And, Malaysia is reported as one of the top five countries with a total number of 19 fraud cases that contribute to a USD195,000 of median loss (ACFE, 2020). The Global Economic Crime and Fraud Survey reported by PricewaterhouseCoopers (PwC, 2020) mentioned that fraud incidence in Malaysia remain high since their last survey in 2018. According to

Callao, Jarne, and Wroblewski (2014), these high-profile fraud cases have made earnings management a vital issue like most controversies faced by global businesses, such as Enron, that have gone bankrupt as a result of illegal earnings management, which consequently leads to the fraudulent financial statement. The Securities Commission Malaysia reported that 14 out of 17 public listed companies (PLCs), which represent 82%, had been charged with fraudulent financial reporting through earnings manipulation over illegitimate earnings management practices (Kamal et al., 2016). However, Talbi, Omri, Guesmi, and Ftiti (2015) stated that most of the previous research has mainly focused on accruals earnings management, while research on real earnings management is relatively scarce. Perhaps, the failure of mitigating illegal earnings management activities is rooted in the weakness of addressing real earnings management practices. Therefore, identifying the actors that influence real earnings management allows the financial statement users, especially the investors, to better understand the issue and take appropriate action in mitigating the occurrences.

According to the International Standards on Auditing 240 (ISA) (IAASB, 2009), such practices include omissions of figures and disclosure in financial statements and intentional misstatements to mislead the users of the financial statement and cause fraudulent financial statements. Besides, the standard also acknowledged that the risk factors, namely pressure, opportunity, and rationalization, are related to misstatements as in the fraud triangle theory, which was introduced by Cressey (1953). Hence, this study takes the prospect of examining the issue of earnings management by using a sample of Malaysian PLCs, and by including the three main factors in the fraud triangle theory. The pressure factor is proxy by poor financial performance, the opportunity factor is proxy by poor governance such as board independence, multiple directorships, and audit quality, while the rationalization factor is proxy by related party transactions and founder on board. The sample size for this study consisted of 557 PLCs for the years 2017-2019, resulting a total of 1,671 firm-year observations. A descriptive statistic was run to analyse the characteristic of the data, and correlation and multiple regression analyses were used to investigate the influence of predictive variables on real earnings management. Using Malaysian sample, the study adopt and adapt research by Khanh and Nguyen (2018) and Roychowdhury (2006). But, the selection of variables is tailored to the uniqueness of Malaysian market.

The results from multiple regression show that there is significant negative association between pressure factor, namely financial performance proxy by return on assets (ROA), and real earnings management. In addition, the result also show significant positive association between opportunity factor, namely audit quality proxy by Big 4 auditor, and real earnings management. The findings indicate that firms that involved in real earnings management possessed poor financial performance, particularly in terms of ROA, and poor audit quality by Big 4 auditor.

The structure of this paper is as follows. Section 2 reviews the relevant literature in order to develop hypotheses regarding pressure, opportunity,

and rationalization factors in influencing real earnings management. Section 3 provides the research methodology that has been used to conduct empirical research on real earnings management and fraud triangle factors. Section 4 presents the results obtained and a discussion regarding the findings. And, lastly, Section 5 offers the conclusion of this study.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. Earnings management

Prior studies defined earnings management in a variety of ways. The well-known definition by Healy and Wahlen (1999) states that "Earnings management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reporting accounting practices" (p.368). In other words, earnings management is the deliberate manipulation of actual economic conditions to mislead stakeholders. A recent study by Bansal, Ali, and Choudhary (2021) clarify that earnings management occurs when executives use estimation in the transaction preparation to alter financial statement in order to deceive some stakeholders or to persuade the achievement of contracts based on the accounting data presented.

Callao et al. (2014) argued that despite the well-defined designation, debates on earnings management are still ongoing. According to Adi, Putri, and Permatasari (2020), earnings management can be viewed from two perspectives: informative and opportunistic. From an informative viewpoint, earnings management is regarded as a tool for presenting personal information about a firm's future performance in financial markets. While in the opportunistic viewpoint, earnings management is seen as an approach used by management to mislead investors on the actual conditions of the firm and also to avoid circumstances that could harm the firm. Thus, by maximizing personal benefit they will be compensated.

According to Li and Zaiats (2017), some researchers have classified earnings management into three groups, as follows:

1. Known as "beneficial" and "white earnings management": the flexibility in selecting the accounting treatment is used to communicate the manager's understanding of the future cash flow.
2. Known as "neutral" and "grey earnings management": the choice is made for the accounting treatment that capitalizes solely on the use of administration, making it neither resulting in better nor opportunistic.
3. Known as "black earnings management": to diminish or mislead the transparency of financial data, tricks are frequently employed.

### 2.2. Real earnings management

In terms of the technique, earnings management can be divided into two, namely accrual earnings management and real earnings management. Accrual earnings management is carried out through

management judgments in the financial statement (Healy & Wahlen, 1999), whereby managers bring their opinion and subjectivity through creative accounting (Rauf, Johari, Buniamin, & Rahman, 2012). Meanwhile, real earnings management is closely related to the daily operation, whereby managers aim to achieve earnings targets by performing "activities that deviate from normal business practices", including overproduction, decreased discretionary expenses, or relaxed sales credit policies (Roychowdhury, 2006). However, Anagnostopoulou and Tsekrekos (2016) argued that managers may shift from accrual earnings management to real earnings management. This is because, it is more difficult to detect and less traceable due to its ability to be covered in normal business events (Alawag, 2021).

As real earnings management can be manipulated by deviating from regular business operations, aggressive price cuts to improve sales and profits, buyback of common stock, declines in discretionary spendings like research and development, advertising, maintenance, and overproduction to report the reduced cost of goods sold are all elements of real earnings management. And, earnings management actions with no direct cash flow impacts are referred to as accrual earnings management, for instance, deciding whether to write down assets, record or postpone income, capitalize, or spend on specific costs such as repair expenses and adopting new regulations (Xu, Taylor, & Dugan, 2007). Several researchers have suggested that managers shift to real earnings management due to the ease with which discretionary-related decisions can be taken and are less probable to be recognized by the authorities. Further, the burden imposed by auditing and enforcement agencies has diverted managers to other forms of earnings management. Ewert and Wagenhofer (2005) posited that strict accounting practices cause an increase in real earnings management and a declining practice in accruals earnings management. Real earnings management activities are not investigated by auditors and are harder to spot by investors and regulators.

Through real earnings management, managers take action that deviates from standard business operations, including relaxed revenue credit practices, reduced discretionary costs or overproduction to meet earnings benchmarks (Roychowdhury, 2006). Malik (2015) evinced that businesses in the United States are exploiting revenue using real activities to prevent announcing losses or to fulfil investor expectations. Many firms with the commitments to satisfy earnings benchmarks for consecutive years have very little or no alternative but to keep on making up the expense, including those unreversed expenses generated earlier. Finally, these firms may decide to offset those accruals, which lead to committing fraud. The changes in earnings management strategies have generated the need to introduce real earnings management to the general public. Examining real earnings management in eight East Asian emerging markets, including Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Taiwan, and Thailand, Amin and Cumming (2021) reported that the practice of real earnings management can be effectively monitored by lower concentrated ownership, strong investor protection and better rule of law. Pacheco-Paredes and Wheatley (2021)

added that superior audit by external auditor greatly influence financial reporting quality as they found that real earnings management is associated with abnormally longer audit report lags and more audit effort. Still, Elnahass, Salama, and Yusuf (2022) posit that internal governance mechanisms, such as large and independent boards and committees, directors with financial expertise and serving on multiple boards, greatly mitigate earnings management. Taken together, both internal and external governance are deemed as effective monitoring mechanisms in combating real earnings management.

### 2.3. Agency theory and real earnings management

The most pertinent theory that explains why firms are involved in real earnings management is the agency theory which was introduced by Jensen and Meckling (1976). The theory focuses on the relationship between managers and shareholders, whereby managers act as an agent on behalf of the shareholders, who are the firm's owners cum the principal. According to Jensen and Meckling (1976), agency problems arise from the separation of ownership and control between managers and shareholders. As both parties tend to maximize their self-interest and the presumption that the agent will not always act in the best interest of the principal, conflict of interest frequently occurs in the principal-agent relationship. For instance, since it is impossible and too costly for the shareholders to monitor all activities of managers, managers may engage in illegal or aggressive earnings management in order to keep the firm afloat and appears virtuous. However, such an act was done at the expense of the shareholders. If being caught, not only do the managers have to face high personal costs but the shareholders are forced to bear the losses too, such as decreased firm reputation and value, which eventually affects shareholders' wealth. Thus, Jensen and Meckling (1976) and Hasnan, Mohd Razali, and Mohamed Hussain (2020) suggested that the implementation of sound corporate governance could mitigate the agency problem. Thus, incorporating corporate governance as one of the subjects, and by adopting the agency theory in the hypotheses development, this study aims to examine the relationship between fraud triangle factors: pressure, opportunity and rationalization, and the occurrence of real earnings management.

### 2.4. Fraud triangle factors and real earnings management

As mentioned earlier, earnings management may start small and grow over time resulting in fraudulent financial statements. Thus, the motivation that drives earnings management activities is not much less than fraud. The study adopts the fraud triangle theory developed by Cressey (1953), which widely accepted fraud model that explains the reasons for fraud occurrences, in examining real earnings management. The fraud triangle factors are pressure, opportunity, and rationalization. Vousinas (2019) posits that the pressure factor explains the incentive that forces fraudulent activities, while the opportunity factor provides the opening for fraud to

take place, and the rationalization factor is the act of justifying the fraud. The factors are discussed in the following subsections.

#### 2.4.1. Pressure

Firm financial value is commonly being used to evaluate firm success, thus, when financial value is inadequate, managers would often execute real earnings management technique to protect their reputation. It is thus associated with managers' desire to demonstrate the best performance of the firm. Beating, or at least meeting stakeholders' and shareholders' expectation, is the most crucial concern of the management which consequently create pressure for them to focus on the firm's growth and profitability. Arguably, profitability is a critical key performance indicator of a firm's financial performance in the eyes of the stakeholders. A firm with poor financial stability and performance is financially distressed, and this creates a strong incentive for the managers to achieve or exceed revenue targets and forecast by the analyst (El Diri, 2018). Hasnan, Rahman, and Mahenthiran (2013) mention in their study that the primary reason for the occurrence of the fraudulent financial statement is due to its poor financial performance; about 95% of fraud cases were related to financial pressure. Such findings support an earlier study conducted by Bell, Szykowny, and Willingham (1991) who found that poor financial conditions could encourage immoral managers to enhance the firm's image and financial performance to minimize the likelihood of mass layoffs or to gain as many resources as possible before any dismissal.

Poor financial performance can be an incentive for earnings management, leading to a fraudulent financial statement if it is conducted aggressively. Therefore, there is a great motivation for the management to practice real earnings management when the firm is not doing well. Most previous studies have stated that poor financial performance offers managers a strong motive to exploit recorded earnings for various reasons, like preventing violation of the loan arrangement or loss or reduction of earnings. Yang, Hsu, and Yang (2016) found that managers willing to involve in earnings management by overstating their earnings aggressively when firm face financial distress risk. This is because managers encounter the pressure of achieving or exceeding the benchmarks set.

Khanh and Nguyen (2018) have found that profitability has a significant and positive association with real earnings management. The finding suggests that a higher degree of profitability leads to a greater activity of real earnings management. This finding is also consistent with Fitri, Muda, and Badaruddin (2018), who found that profitability has a significantly positive impact on earnings management. Such findings confirm the claim that managers are encouraged to be involved in operational discretion to boost the firm's efficiency and maximize profit (Roychowdhury, 2006), or to achieve analyst's estimation (Graham, Harvey, & Rajgopal, 2005). Nonetheless, examining Indonesian mining listed firms, Adi et al. (2020) found that the profitability of the firm has little impact on real earnings management. They argued that a firm's greater or lesser profit has relatively no impact on

real earnings management activities. Meanwhile, Baatour, Othman, and Hussainey (2017) reported a negative and significant relationship between ROA and real earnings management, which means that firms with lower ROA were more likely to be engaged in real earnings management. Despite the contradicting findings in prior studies, the first hypothesis in this study is:

*H1: There is a significant relationship between a firm's pressure factor and the occurrence of real earnings management in Malaysian PLCs.*

#### 2.4.2. Opportunity

The opportunity for wrongdoing is derived from a deficiency in the control mechanisms, which makes earnings management activities possible (Mohamed Yusof, 2016). These circumstances occur due to the inefficiency of controls, particularly within the organization, that gives rise to the risk of fraud. The firm's board is a crucial component of corporate governance and should serve as a protective tool against any misconduct in real earnings management. Indeed, having an effective board enhances the quality of financial reporting (Elnahass et al., 2022). In this study, poor corporate governance in terms of board independence, multiple directorships, and external audit quality are used as proxies for opportunity factors.

The lack of independent directors in the firm is one reason that triggers weak corporate governance (Hasnan et al., 2013). Beasley (1996) investigated the agency theory hypothesis found that a larger ratio of outside directors can improve the board's supervision effectiveness. Independent board members have been linked to supervision effectiveness, while non-independent directors have been linked to ineffective supervision. Prior studies examining board independence and earnings management have found that effective monitoring reduces earnings management and some argued that the competency of the board of directors (BOD) is based on their independence (Dechow, Sloan, & Sweeney, 1996; Beasley, 1996). Rajeevan and Ajward (2019) have found a negative association, whereby board independence is related to a decline in real earnings management practices in Sri Lanka from 2015 to 2017. A recent study by Elnahass et al. (2022) finds that large and independent board of directors and also audit committee members are negatively associated with earnings management for Islamic and conventional banks in 14 countries including Malaysia and Indonesia. However, there are also studies that reported otherwise. Kjærland, Haugdal, Søndergaard, and Vågslid (2020) find a positive relationship between the percentage of independent directors on the board and earnings management in Norway, indicating that the incidence of earnings management is commensurate with board independence. Similarly, Dakhilallh, Rashid, Abdullah, and Shehab (2021) who examine Jordan firms also found that board independence is positively and significantly correlated with real earnings management. The contradicting findings from the prior study, thus, motivate this study to examine the association between board independence and the occurrence of real earnings management in Malaysian PLCs.

With regard to the multiple directorships, previous research has consistently demonstrated two key concepts: "reputation" and "busyness" (Cashman, Gillan, & Jun, 2012). According to Ferris, Jagannathan, and Pritchard (2003), as a corporation has more interactions with external parties, directors having a variety of relationships with these parties are needed to manage the incredibly challenging contractual operations. Using the same rationale, when a firm expands, its activities increase, necessitating the hiring of agents/directors with experience and expertise in raising funds for the benefit of the firm and its shareholders. Busy directors are seen to have these qualities, and it is in the best interests of the firm to employ them. This leads to the "reputation" concept, which states that directors who serve on several boards have greater knowledge, skills, and competencies, and superior overseeing capabilities, thus contributing greater value to the business. Independent directors with several directorships (busy directors) may contribute many resources to the board. Certainly, the knowledge and independence of the board are important but inadequate in ensuring managers work honestly, truthfully, and with integrity (Calderón, Piñero, & Redín, 2018). On the opposite end of the "busyness" concept, certain directors fail to fulfil their duties due to the lack of attention, concentration, and intellectual capability. They either are relatively ineffective in executing the surveillance and supervision duties, or they perceive the lack of interest as an opportunity to further their interests. In any case, this increases the risk of profits manipulation in those organizations since managers are not effectively overseen and led by monitoring board members. The "busyness" concept asserts that the BOD lacks time and motivation to properly fulfil their obligations as directors (Ferris et al., 2003). As a result, managers may benefit from the less efficient supervision and participate in expropriation practices to gain the benefit at the expense of the shareholders.

Iturriaga and Rodriguez (2014) put forward that multiple directorships may enhance the performance of the firm. Consistently, Shu, Yeh, Chu, and Yang (2015) observed a significant negative correlation between multiple directorships and earnings management as assessed by discretionary accruals. A recent study by Chee and Tham (2021) who examines Singaporean firms also disputes that there is a strong and negative association between multiple directorships and abnormal discretionary accruals, implying that a greater number of directors having multiple directorship on the board have a lesser degree of earnings management. And, Elnahass et al. (2022) added that not only able to reduce managerial opportunism, directors having multiple directorships can promote greater knowledge and expertise, and are exposed to more diverse experiences, to effectively provide additional monitoring for the firms. However, using Palestinian listed firms as a sample, Saleh, Shurafa, Shukeri, Nour, and Maigosh (2020) found that multiple directorships do not influence the performance of the firm, suggesting that even the board possess multiple directorships members, no advantages or costs are exerted on the firm's profitability. Considering the contradicting findings from prior studies, this study aims to examine the association between multiple directorships and the occurrence of real earnings management.

In terms of external monitoring, audit quality is an important mechanism being used to track management misconduct and help to stabilize the interests of managers and shareholders (Alzoubi, 2018). Nevertheless, the effect of audit quality on real earnings management remains unanswered due to the controversial findings of previous studies. External audits play a vital role in eliminating information asymmetry between management and shareholders, which is also the source of other agency issues. By checking the fairness and reliability of the financial statement, the audit can improve its accuracy and reduce real earnings management occurrences (Khanh & Nguyen, 2018). One of the most popular indicators of audit quality in auditing literature is the size of the audit firm, which is frequently described as a Big 4 vs. non-Big 4 (DeFond & Zhang, 2014). According to Vehn, Carcello, Hermanson, and Hermanson (1997), the variation in audit quality between the big audit firms and non-big firms is related to their multinational customer base; large audit firms are more likely to improve audit quality and avoid reputational threats. Besides, big firms are also more cautious in controlling earnings management than non-big firms.

Alzoubi (2018) found that firms using the service providers of Big 4 auditors in Jordan have a substantially lower extent of earnings management. Özcan (2018) who investigate the relationship between audit quality and earnings management for non-financial firms listed on Borsa Istanbul, discovered that independent auditor and audit industry specialization are significantly and negatively related to the likelihood of earnings management, while long-term auditor and client relationships enable firm's manager to fully participate in earnings management. The findings substantiate that a high-quality audit is among the most important elements toward reducing earnings management behaviour. According to Kurawa and Aca (2020) and Rahman, Omar, Osman, and Zakaria (2020), audit firm size has significant negative consequences on discretionary accruals. And, this suggests that firms audited by the Big 4 have lesser discretionary accruals. However, a significantly positive association between audit firm size and earnings management was observed by Yusuf (2021). The findings reveal that audit firms' size is insufficient to restrain the earnings management activities of Nigerian's publicly traded firms. And, all the above discussion leads to the following hypothesis:

*H2: There is a significant relationship between a firm's opportunity factors (a: board independence; b: multiple directorships, and c: audit quality) and the occurrence of real earnings management in Malaysian PLCs.*

### 2.4.3. Rationalization

Rationalization is the extent to which a person in charge has a mindset or ethical principles that would encourage him or her to commit unlawful activity. Once the management has discovered the best opportunity, there will be a desire to practice earnings management (Cressey, 1953). Many individuals who engaged in a fraud attempt to rationalize unethical acts as being consistent with

a moral code of ethics. In this study, related party transactions and the existence of a founder on the board are used as proxies of rationalization.

Related party transactions arise among the firm's senior executive team, representatives of its BOD, or close family members of these persons, as well as with the firm's associates (Huang & Liu, 2010). Alteration of accounting accruals and distortion of real activities for reaching particular objectives for financial performance are the two basic approaches to control earnings (Roychowdhury, 2006). The utilization of related party transactions is a strategy that can accomplish the management of declared earnings objectives. Business owners may take advantage of such deals for their gain and seek to hide this by manipulating financial statements (Habib, Muhammadi, & Jiang, 2017). From the family firms' perspective, due to the extreme prevalence of the family firms, which is often correlated to low agency costs, and ineffective corporate governance practices, the real worry of mismanaging related party transactions is debatably more intense in developing countries than in developed countries since the agency costs in these firms are in many circumstances among majority and minority shareholders (Abdullatif, 2016).

According to Arens, Elder, Beasley, and Hogan (2017), related party transactions might be utilized in earnings management and other sorts of deceptive accounting such as deceptive valuation of these transactions. Offering shares to related parties at a lower price, transfer pricing, selling assets at a profit, and paying ridiculously high payments to senior executive managers, are some of the ways to carry out such transactions (Utama & Utama, 2009). Consequently, the benefits are shifted from minority to majority shareholders. Hasnan, Rahman, and Mahenthiran (2014) reported a significant positive association between related party transactions and the likelihood of financial restatement; the study suggests that frequently related party transactions lead to a greater likelihood of financial restatement. Nonetheless, focusing on a more severe misstatements sample called the "fraudulent financial statement", Hasnan et al. (2013) discovered a negative relationship between related party transactions and the incidence of fraud. Thus, it can be concluded that related party transactions are more likely to result in financial restatement due to aggressive accounting, which is classified in the category of earnings management rather than fraudulent accounting. In a later work, Hasnan, Daie, and Hussain (2016) evinced that the presence of related party transactions is a possible source of conflict of interest that poses more opportunities to expropriate minority shareholders while manipulating earnings to cover these expropriations. However, there are also studies that found no correlation between related party transactions and real earnings management (Alhadab, Abdullatif, & Mansour, 2020). El-Helaly, Georgiou, and Lowe (2018) claim that firms engaged in related party transactions are less likely to involve in real earnings management.

With regard to the existence of a founder on a firm's board, Claessens, Djankov, and Lang (2000) specified that the founder and their heirs have powerful control over the firm. Hasnan et al. (2013) believed that the presence of the founder on the firm's board can also lead to the likelihood of fraudulent financial statements. The founders are

the architects who established the firm and have a significant influence on the firm's culture. In particular, the founders, regardless of the ownership interest, may have a greater personal and emotional connection to the firm than anyone else. It is common for the founders to have a deep sense of ownership or power over the organization in order to protect the firm by preventing a publicly declared loss. Consequently, real earnings management can be considered as an effort by the founders to escape embarrassment and stop self-esteem loss. Hussain, Sanusi, Mahenthiran, and Hasnan (2016) found a significantly positive correlation between the presence of the founder on the board and financial restatement and claimed that the founder on the board contributes to a deceptive report. Based on the above discussion, this study hypothesized that:

*H3: There is a significant relationship between a firm's rationalization factors (a: related party transactions; b: founder on the board) and real earnings management in Malaysian PLCs.*

### 3. RESEARCH METHODOLOGY

#### 3.1. Sample selection

This research contributes to the literature on factors that influence the PLCs in Malaysia by providing evidence on real earnings management in recent years. The population of this study includes PLCs listed on the main market of Bursa Malaysia between 2017 and 2019. The sample covers 3 years to obtain the current real earnings management condition in Malaysia. Table 1 summarizes the sample selection process. There were 783 Malaysian PLCs listed on

the main market from 2017 until 2019. This population excludes 32 PLCs related to banking, financial institutions, and insurance companies that adopt different accounting policies and financial reporting requirements. A total of 194 firms were excluded from the sample due to the unavailability of data. Therefore, the final sample consists of 1,671 firm-year observations (557 listed firms in 3 years).

**Table 1.** Sample selection

Sample size	No. of firms
Number of firms listed on Bursa Malaysia	783
Banking, financial institutions, and insurance companies	32
Number of firms with incomplete data	194
Final sample	557

#### 3.2. Data collection

This study mainly used secondary sources. The data for pressure, opportunity and rationalization factors, and real earnings management were collected through the firms' annual reports. The financial data were retrieved from the firm financial statements and DataStream or Thomson Reuter's databases. And, the non-financial data were extracted from the general information presented in their annual reports.

#### 3.3. Variables measurement

Table 2 presents the measurement used for dependent, independent, and control variables included in the study.

**Table 2.** Variables measurement

Variable	Abbreviation	Measurement	Reference(s)
<b>Dependent variables</b>			
Real earnings management	REM	The proxies for REM are abnormal cash flow from operations (ABNCFO), abnormal production costs (ABNPROD), and abnormal discretionary expenditure (ABNDISEXP). ABNCFO: Abnormal operating cash flows derived from the variance of actual operating cash flow values divided by total assets one year before testing are reduced by the cash flows of normal operating activities. ABNPROD: Abnormal production costs derived from the variance in the value of actual production costs divided by total assets one year before testing are reduced by normal production costs. ABNDISEXP: Abnormal discretionary expenses derived from the variance of discretionary cost values divided by total assets one year before testing are reduced by normal discretionary costs.	Dechow et al. (1996) adopted by Roychowdhury (2006)
<b>Independent variables</b>			
Return on assets	ROA	The percentage of profit after tax divided by total assets.	Baatour et al. (2017)
Board independence	INDBOD	The percentage of outside directors on the board divided by the total number of directors on the board.	Hasnan et al. (2013)
Multiple directorships	MULBOD	The number of directors having cross-directorship divided by the total number of directors on the board.	Hasnan et al. (2013)
Audit quality	AUDQ	A dummy variable equal to 1 for Big 4 audit firm, and 0 otherwise.	Khanh and Nguyen (2018)
Related party transactions	RPT	The proportion of related party transactions to total assets.	Hasnan et al. (2016)
Founder on the board	FOUNDER	The number of founders on the board divided by the total number of directors on the board.	Hasnan et al. (2013)
<b>Control variables</b>			
Firm size	SIZE	The natural logarithm book value of total assets.	Khanh and Nguyen (2018)
Firm leverage	LEV	The proportion of total debt to total assets.	Rajeevan and Ajward (2019)

### 3.4. Model

In order to test the hypotheses using Statistical Package for the Social Science (SPSS), this study utilized a regression model to identify the factors associated with real earnings management as follows:

$$\begin{aligned} REM = & \alpha + \beta_1 ROA + \beta_2 INDBOD \\ & + \beta_3 MULBOD + \beta_4 AUDQ + \beta_5 RPT \\ & + \beta_6 FOUNDER + \beta_7 SIZE + \beta_8 LEV + \varepsilon \end{aligned} \quad (1)$$

However, in Khanh and Nguyen (2018), a generalized method of moments (GMM) estimator was employed to test the hypotheses and a linear dynamic GMM model was adopted in the formulation of a regression model. The authors state that GMM was used in order to account for the omitted variable problem, country-specific heterogeneity, and endogeneity issue. Meanwhile, in Roychowdhury (2006), cross-sectional regression analysis was used to examine the variation in real earnings management. The four sources of cross-sectional variation include 1) industry membership; 2) incentives to meet zero earnings, including the presence of debt, growth opportunities, and short-term creditors; 3) earnings management flexibility, and 4) institutional ownership.

## 4. RESULTS AND DISCUSSIONS

### 4.1. Descriptive statistics

Table 3 presents the descriptive statistics of real earnings management and pressure, opportunity, and rationalization variables. As reported in Table 3, the mean value of residuals for the model of Dechow et al. (1996) and adopted by Roychowdhury (2006) is .0067, and the maximum and minimum values of real earnings management for pooled data are .98 and -.88, respectively. The means values of all three proxies of real earnings management: *ABNCFO*, *ABNPROD*, and *ABNDISEXP* are zero, which indicates that on average, real earnings management practices through abnormal cash flow from operations, abnormal production costs, and abnormal

discretionary expenditures are insignificant. This is consistent with the estimation model's assumptions and in tandem with previous research (Huang & Sun, 2017). The maximum and minimum values of the real earnings management proxies, *ABNCFO*, *ABNPROD*, and *ABNDISEXP*, are .949, .603, .831 (max); -.432, -.726, -.606 (min).

For the pressure factor, the *ROA* on average is .023 (2.3%), which demonstrates low profitability relative to total assets. It also shows that the firms did not use their assets efficiently to generate earnings. This circumstance might become a great motivation for the managers to practice earnings management when the firm does not do well, as per the finding of Yang et al. (2016). The highest percentage of *ROA* is .472 (47.2%), while the lowest is -.804 (-80.4%).

With respect to opportunity factors, the results show that the mean of board independence is .483 (48.3%) which meets the recommendation of the Malaysian Code on Corporate Governance 2000 (MCCG), that at least one-third of the board must comprise independent non-executive directors. The second opportunity factor, multiple directorships, is relatively high for the entire 3-year period which is at .629 (62.9%), and the result is consistent with Hasnan et al. (2016). This indicates that more than half of the board members hold additional directorships in other firms. Such findings are not surprising since multiple directorships is a common practice in Malaysian firms and it is allowed under the Listing Requirement of Bursa Malaysia. As for audit quality, the sample consists of .4435 Big 4 firms. Approximately, 44.3% of the sample were audited by the Big 4 auditors, which implies less than half of the PLCs.

In terms of rationalization factors, the result indicates that related party transactions of Malaysian PLCs for the selected period seem to be high and significant with an average of .825 (82.5%), the result is also consistent with Hasnan et al. (2016). The result for another variable of rationalization factor, the founder on the board, shows that only .053 (5.3%) of the firm have founders sitting on the board.

Table 3. Descriptive statistics

Variable	Minimum	Maximum	Mean	Std. deviation
<i>REM</i>	-.88	.98	.0067	.12291
<i>ABNCFO</i>	-.432	.949	.00000	.095491
<i>ABNPROD</i>	-.726	.603	.00000	.148670
<i>ABNDISEXP</i>	-.606	.831	.00000	.091076
<i>ROA</i>	-.804	.472	.02308	.090290
<i>INDBOD</i>	.111	1.333	.48315	.132788
<i>MULBOD</i>	.000	1.250	.62952	.255539
<i>AUDQ</i>	.000	1.000	.44345	.496940
<i>RPT</i>	.42	1.60	0.8255	0.10272
<i>FOUNDER</i>	.000	.667	.05314	.098129
<i>SIZE</i>	16.115	25.910	20.35037	1.552006
<i>LEV</i>	.012	2.664	.41062	.219381

### 4.2. Correlation analysis

Table 4 presents the results of the correlation analysis of studied variables. The statistical results above show the correlation among the dependent, independent, and control variables. The correlation matrix shows that all real earnings management proxies are correlated positively with real earnings

management, and *ABNDISEXP* shows a significantly small correlation ( $r = .086^*$ ), while *ABNPROD* shows a significantly medium correlation ( $r = .481^{**}$ ) as *ABNCFO* ( $r = .449^{**}$ ). This result is expected and consistent with Alhadab and Nguyen (2018) who also reported a positive correlation between all these proxies and real earnings management.



The highest correlation is found between *ABNPROD* and *ABNDISEXP* with a coefficient of  $-.614$ , significant at 0.01 level. This suggests that an increase in *ABNPROD* significantly results in a reduction in *ABNDISEXP*. Such finding is not surprising and it indicates that when firms carried out real earnings management through *ABNPROD*, they rarely engaged in real earnings management related to *ABNDISEXP*. Another moderate correlation is also found between *RPT* and *SIZE* with  $.431$  and significant at 0.01 level. The positive correlation between these variables suggests that larger firms engaged in a greater amount of *RPT*. As large firms commonly have higher assets and involve in greater trades, a higher amount of transactions is expected.

As illustrated in Table 4, there is a significant correlation between *ROA* and real earnings management, the coefficient shows a negative sign ( $r = -.094^*$ ), suggesting that firms involved in real earnings management reported slightly lower *ROA*. This finding substantiates previous studies by Baatour et al. (2017) and Alhadab and Nguyen (2018) who found a negative and significant relationship between *ROA* and earnings management. Another variable having a significant correlation with real

earnings management is audit quality ( $r = .116^{**}$ ). This positive correlation is consistent with the findings of Yusuf (2021) who examined the association between audit firm size and earnings management. The weak correlation between these variables and real earnings management may influence its significance level in the regression analysis.

Another interesting finding is regarding the significant positive correlation between *SIZE* ( $r = .178^{**}$ ) and *LEV* ( $r = .252^{**}$ ), and real earnings management. The correlation indicates that larger firms with higher leverage are more likely to involve in real earnings management than smaller firms with lower leverage. Research by Jensen and Meckling (1976) stated that when the firm size increases, managers' discretion is also greater and resulting in an increase in the agency cost. The possible explanation is that the management of a large firm faces more pressure to meet the stakeholders' expectations. Alhadab et al. (2020) added that the presence of debts can lead to earnings management incentives in order to improve creditors' perception.

Table 4. Correlation analysis

	1 REM	2 ABNCFO	3 ABNPROD	4 ABNDISEXP	5 ROA	6 INDBOD	7 MULBOD	8 AUDQ	9 RPT	10 FOUNDER	11 SIZE	12 LEV
1	1											
2	.449**	1										
3	.481**	-.338**	1									
4	.086*	.131**	-.614**	1								
5	-.094*	.377**	-.379**	.075*	1							
6	-.006	-.041	-.003	-.043	-.118**	1						
7	.025	0.54	-.019	.011	.000	.038	1					
8	.116**	.125**	-.007	.027	.052*	-.022	.215**	1				
9	-.056	.043	-.082	.046	.081**	-.029	.023	.079**	1			
10	-.024	.053	-.039	.018	.067**	-.065**	-.127**	.047	-.083**	1		
11	.178**	.202**	.055	-.100**	.135**	-.046	.262**	.056*	.431**	-.113**	1	
12	.252**	.034	.078	.043	-.215**	.095**	.134**	.082**	.169**	-.064**	.344**	1

Note: \* and \*\* denote the significance at the 0.05 and 0.01 levels, respectively.

#### 4.3. Multiple regression analysis

In order to test the hypotheses developed, multiple linear regression was fitted to estimate the occurrence of real earnings management based on the factors of pressure (*ROA*), opportunity (*INDBOD*, *MULBOD*, and *AUDQ*), and rationalization (*RPT* and *FOUNDER*). The overall model shows an R-squared value of  $.139$ , which means that 13.9% of the variation in real earnings management is explained by the factors (i.e., significant p-value: *ROA*, *AUDQ*, *SIZE*, and *LEV*). Table 5 reveals that *ROA* and *AUDQ* show significant associations with real earnings management. Worth noting, the sign of the coefficient of these variables is consistent with the expectation. However, there is no statistical evidence to support the association between *INDBOD*, *MULBOD*, *RPT*, and *FOUNDER* variables and the occurrence of real earnings management.

*ROA*, which is the proxy for pressure factor, shows a negative and significant association with real earnings management at the 10% level. This is consistent with the finding in Table 4 that shows a significant correlation between *ROA* and real earnings management. This suggests that a higher value of *ROA* is associated with lower real earnings management incidents. Or, in other words, most real earnings management incidence is linked to a lower

*ROA* value. Since the study treated this variable as a pressure factor, the later argument prevails. As discussed earlier, poorly performed firms are more prone to involve in earnings management than the healthy firm because the managers encountered greater pressure to meet stakeholders' expectation and to maintain their reputation. The result is consistent with study by Baatour et al. (2017) who have revealed that less profitable firms are more likely to be engaged in earnings management. Therefore, the first hypothesis (*H1*) is supported.

With respect to *AUDQ*, which was measured using audit firm size, a significant positive association is found between this variable and real earnings management. Since the study preserved this variable as one of the opportunity factors that lead to the occurrence of real earnings management, a positive coefficient is expected. The opportunity factors symbolise poor monitoring mechanisms by internal or external parties that allow wrongdoing to occur. The positive association, thus, indicates that Big 4 audit firms fail to effectively monitor the occurrence of real earnings management. The result is consistent with Yusuf (2021) who argued that an audit firm's size is insufficient to restrain earnings management activities. For that reason, the second hypothesis (*H2c*) is supported.

Concerning the other two opportunity factors, *INDBOD* and *MULBOD*, the insignificant association between these variables and real earnings management probably be due to the obligation of Malaysian PLCs to rules, regulations, and practices in Malaysia. For board independence, boards of Malaysia PLCs should comprise one-third of independent non-executive directors as per the recommendation of MCCG 2000. Multiple directorships are a common practice in Malaysian firms since it is legally allowed under the Listing Requirement of Bursa Malaysia. The finding on *INDBOD* is consistent with a prior study conducted in Vietnam by Dang et al. (2017) which also shows a negative insignificant result. Thus, the hypotheses *H2a* and *H2b* are rejected.

With regard to the rationalization factors, *RPT* and *FOUNDER*, there is no significant association found between these variables and real earnings management. Worth noting, the sign of the coefficient for *RPT* is consistent with Hasnan et al. (2014), who examines Malaysian fraudulent financial reporting. Meanwhile, the coefficient for *FOUNDER* is consistent with Hasnan et al. (2013) who observes Malaysian fraudulent financial statements. Thus, it can be argued that the insignificant findings are influenced by the sample firm and the inter-correlation among the factors included. As this study focuses on the real earnings management sample and fraud

triangle factors, thus, the result might differ. Hence, both hypotheses *H3a* and *H3b* are rejected.

Table 5 also illustrates that the control variables, *SIZE* and *LEV*, are significantly related to real earnings management at a 1% level. The significant negative relationship between *SIZE* and real earnings management indicates that small-size firms are more likely to engage in real earnings management. Almarayeh, Aibar-Guzmán, and Abdullatif (2020) put forward that these firms probably intend to portray good financial performance in order to attract more investors and satisfy the shareholders. Looking from a different perspective, Paiva, Lourenço, and Curto (2019) argued that large firms are less likely to commit misstatements through real earnings management because these firms possess strong internal control which is governed by strict supervision and regulations. For *LEV*, the positive coefficient suggests that firms with high leverage tend to practice misstatement through real earnings management. The finding is consistent with a study by Dang et al. (2017) and Adi et al. (2020) who argued that higher leverage firms are loaded with great pressure and risk on debt burden and financial distress status. This consequently led to the occurrence of real earnings management in order to cover up the firm's poor performance.

Table 5. Regression analysis

Variable	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. error	B		
(Constant)	.497	.110		4.510	.000***
ROA	-.116	.074	-.086	-1.563	.076*
INDBOD	-.022	.048	-.024	-.465	.642
MULBOD	.013	.026	.028	.510	.611
AUDQ	.013	.014	.091	1.581	.056*
RPT	.042	.062	.035	.671	.502
FOUNDER	-.043	.065	-.035	-.664	.507
SIZE	-.018	.005	-.234	-3.730	.000***
LEV	.184	.032	.331	5.722	.000***
R-square					.139

Note: \*, \*\*, and \*\*\* denote significance at the 0.10, 0.05, and 0.01 levels, respectively.

## 5. CONCLUSION

In conclusion, the focus of this paper is to investigate the association between factors from the fraud triangle theory namely pressure, opportunity, and rationalization, and the occurrence of real earnings management in Malaysia. The study finds that poor financial performance, specifically low ROA, and poor external monitoring, particularly by Big 4 auditors, influenced the occurrence of real earnings management in Malaysian PLCs. The finding of this study is crucial in reducing the real earnings management practices among Malaysian firms, particularly those that are publicly traded. As aggressive earnings management leads to fraudulent financial statements and results in negative consequences for various stakeholders, particularly investors and creditors, its occurrence should be prevented and mitigated. The occurrence of fraudulent financial statements has further threatened the credibility of firms' financial statements and public trust in the capital markets. Hence, strengthening the quality of a firm's corporate governance in order to secure

a reasonable level of firm profitability and adequate level of monitoring are important to reduce the risk of real earnings management.

The main value of this study lies in its disclosure of the influence of fraud triangle factors on real earnings management. The findings provide useful insights for the firm's shareholders and stakeholders in assessing corporate governance effectiveness. In addition, findings from this study highlight the issues related to real earnings management, especially regarding the ineffectiveness of external audits as a control mechanism. This may assist the policymakers, standard setters, and regulators in reconsidering the existing policies, standards, and regulations regarding issues related to real earnings management. However, caution should be applied as the study limitations are rooted in the small sample size and years which are only limited to 557 Malaysian PLCs for over three years period, resulting in 1,671 firm-year observations. Perhaps, future studies may consider a larger sample to investigate the trends and patterns of real earnings management practices which would probably provide a more concrete result. Apart from

that, the study only focuses on three main factors adopted from the fraud triangle theory which was first introduced in 1953. Given the fast-growing technology resulting in the evolvement of fraud theories, future studies should consider a more

recent theory to tackle the issue of misstatements (i.e., earnings management, financial restatement, fraudulent financial statement), such as “The New Fraud Triangle Model” by Kassem and Higson (2012) or the “S.C.C.O.R.E model” by Vousinas (2019).

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