Leveraging Financial Ratios to Detect Fraudulent Financial Reporting: Insights and Indicators

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ABSTRACT

Fraudulent Financial Reporting arises when agents misrepresent financial statements for personal benefit, using knowledge asymmetry and insufficient oversight. This study aims to explore how financial statement ratio analysis identifies indicators and warnings of potential financial reporting fraud. Multiple measures, including profitability, liquidity, solvency, cashflow, asset composition and efficiency ratio are examined as potential indicators of financial statement fraud. A red flag signifies a potential risk of fraud within corporations. By analyzing financial ratios, organizations implicated in fraud can be identified, as numerous signs or features are regulated by authorities. A multitude of academics and experts have investigated this topic, revealing that financial ratio analysis can serve as a mechanism for identifying fraud in financial statements. By examining the financial ratios, the company and its stakeholders can assess the potential for fraud prior to making an investment, should they choose to proceed. These results demonstrate that the anomalies in the ratios can identify false financial statements.

Keywords: *Fraudulent Financial Reporting, Ratio Analysis, Red Flag.*

1.0 INTRODUCTION

1.1 Background of the study

Financial statements provide a comprehensive summary of a company's fiscal condition, including insights into its performance, operations, and cash flow. Financial statements are essential documents that offer a summary of a company's financial performance and health. According to Maverick (2022), financial statements are crucial as they present details about a company's revenue, expenses, profitability, and liabilities. In addition, according to Hasanaj & Kuqi (2019), financial analysis is the examination of a company's financial statements through the evaluation of its reports. Report analysis is a mechanism that efficiently computes and elucidates reports utilised by investors, creditors, corporate leaders, and others.

In Malaysia, the preparation of financial statements is a must to any company that is incorporated in Malaysia to submit their Annual Statutory Financial Statements to Companies Commission of Malaysia (SSM, 2022). In addition, shareholders require financial statements to make sound choices regarding their equity investments, particularly during corporate voting matters. (Maverick, 2022).

In recent years, numerous methods for perpetrating corporate fraud have been devised (Maniatis, 2021). Numerous individuals perpetrate financial statement fraud for personal gain. It is in their self-interest to exaggerate revenue on the income statement if their bonus is contingent upon the money generated by their department. If firm performance was subpar, higher management would placate the owners by fabricating financial statements to suggest otherwise. Management fraud schemes do not invariably seek to benefit the offenders financially. Business owners may falsify accounts to present a favourable financial position to lenders or investors. They can accomplish this by inflating income and asset valuations or minimising the firm's liabilities and debts (Sherman, 2019).

Financial statement fraud is characterised by the intentional misrepresentation or distortion of published financial statements to convey inaccurate information on the company (Maniatis, 2021). The Report to the Nations (Fraud Magazine, 2018) by the Association of Certified Fraud Examiners indicated that 10% of fraud cases identified exclusively in 2018 worldwide are to financial statement fraud. Md Nasir et al. (2018) asserts that over the previous decade, numerous scams have occurred globally, including Enron, Parmalat, Global Crossing, and WorldCom, resulting in the collapse of the majority. Financial statement fraud may also result from earnings manipulation, which typically includes activities such as the recognition of substantial fictional accruals, capitalisation of intangible assets, and the recognition of significant expenses during profitable periods (Maniatis, 2021).

Consequently, numerous techniques exist for fraud detection. The examination of financial ratios is a straightforward way for detecting fraud (Kanapickienė & Grundienė, 2015). Financial ratios serve as effective indicators for identifying fraud in the financial statements of local government entities, where elevated current ratios correlate with non-fraudulent companies, and high debt-to-revenue ratios are indicative of fraudulent entities (Mongwe & Malan, 2020). Fraud that impacts both the numerator and denominator in a percentage deviating from the standard ratio is more likely to be detected. Omidi et al. (2019) assert that financial ratios can be analysed to investigate the fundamental traits of financial fraud.

Ratio analysis aids auditors in identifying accounting issues by evaluating the correlation between two distinct financial statement figures. Ratios are calculated using numbers from the current year and subsequently compared to those from previous years, other companies, industries, or the overall economy. Employing ratio analysis through leverage, profitability, efficiency, and liquidity ratios can identify fake financial reporting at an early stage (Isa & Awaluddin, 2020). A comprehensive evaluation is necessary when significant variations occur annually or among enterprises to aid in identifying potential fraud. Furthermore, Husna & Satria (2019) assert that ratio metrics evaluate management success by correlating the magnitude of profit obtained with sales and investment levels.

1.2 Problem Statements

High-profile scandals like Enron, Lehman Brothers, and 1MDB have raised awareness of the impact of fraudulent financial reporting (Hashim et al., 2020). Fraudulent companies often manipulate reports to portray strong performance (Haqq & Budiwitjaksono, 2019). A study by Akgün et al. (2021) found that banks committing fraud often follow IFRS. Improving financial reporting quality is crucial for trust in markets. Fraud risks must be defined (Ozcelik, 2020), and detecting abnormalities is an auditor's responsibility, though challenging (Craja et al., 2020).

Financial statement ratio analysis is a widely used tool for evaluating the financial health and performance of companies. However, there is a growing concern about its effectiveness in detecting red flags associated with financial reporting fraud (Lokanan et al., 2019; Albrecht et al., 2008). The misrepresentation of financial statements poses significant risks to investors, creditors, and other stakeholders. Therefore, it is essential to investigate the extent to which financial statement ratio analysis can identify indicators or patterns that raise red flags for financial reporting fraud. In addition, according to Akra & Chaya (2020), Fraud and bankruptcy have markedly risen among worldwide corporations, prompting researchers and academics to look into the precision and efficacy of financial models in detecting fraud and manipulating financial statements.

Therefore, Ongoro (2018) attributes the prevalence of Financial Fraud Reporting (FFR) of Kenyan companies to deficiencies in corporate governance and inadequate internal controls. The auditors' failure to identify FFR has intensified the necessity for study on profiling FFR firms. Since 2015, six listed firms have been delisted, two banks have been placed under statutory supervision, and one bank has been liquidated. While financial statement ratio analysis has its merits, it is not without limitations. The benchmarks industries are important to keep track of the companies in that industry. There is a need to consider industry-specific benchmarks and economic conditions when analysing ratios (Choi et al., 2020). Additionally, financial statement ratio analysis relies on accurate and reliable financial data. However, creative accounting practices and deliberate misstatements can distort the ratios, making fraud detection challenging (Kumar & Velayutham, 2020).

2.0 LITERATURE REVIEW

2.1 Agency Theory

According to Jensen and Meckling (2019), an agency relationship is a contract between agents seeking work and principals. The study also discovered that the principals delegate authority to the agents in the contract, including decision-making authority. The contract's goal could be to maximise utility for both principals and agents. In this case, the agents maximise their own interests while ignoring the principals. It is possible that agents would engage in fraudulent financial reporting. Utilising agency theory in the context of financial statement fraud enhances comprehension of the dynamics between agents and principals, as well as the strategies that may mitigate the danger of fraudulent modifications to corporate reports.

Shareholders are able to reduce interest divergence by providing incentives and incurring monitoring costs to limit management's deviant behavior (Santoso, 2020). Agency theory explains how agents may manipulate financial statements for personal gain (Saragih et al., 2022). Auditors, as external monitors, play a crucial role in detecting fraud, with auditor reputation and independence significantly reducing financial fraud risks (Huang et al., 2021).

Financial statement fraud challenges agency theory, emphasizing issues like information asymmetry, moral hazard, limited monitoring, incentive misalignment, and complex financial transactions (Magnanelli et al., 2017). Beasley et al. (2018) highlighted how information asymmetry allows agents to exploit their knowledge advantage for fraud. Ghafoor et al. (2019) noted moral hazard when agents prioritize personal gain over principals' interests, increasing fraud risks. Limited monitoring and accountability make fraud detection difficult, as principals often lack resources or expertise (Abed et al., 2022). Additionally, the complexity of financial transactions allows agents to manipulate statements, further complicating fraud detection (Chen et al., 2006).

2.2 Ratio Analysis

According to Hery (2015), ratio analysis is linking different figures in financial statements to create financial ratios, which assist in assessing a company's financial health and performance. Shah et al. (2021) emphasised that this study is grounded in accounting and finance theory, offering significant insights into a company's financial well-being. Jumingan (2011) elucidates that financial ratio analysis evaluates several elements from financial statements, either in isolation or together, to ascertain correlations between balance sheet and income statement components. These ratios assist stakeholders in comprehending many facets of a company's financial performance, facilitating informed decision-making and evaluating financial stability.

Financial ratios, according to Kasmir (2015), involve comparing financial statement numbers by dividing one figure by another. Hery (2015) defined them as comparisons between related financial items with significant relationships. Ratio analysis, as defined by Kaur (2016), examines the interrelationship between two accounting variables, with significant effects when a causal relationship exists. It helps estimate a company’s financial health, future conditions, and performance, while also assessing operational efficiency, identifying weaknesses, and guiding future financial planning (Naufal, 2014).

Financial ratios serve as essential instruments for accountants, analysts, and researchers to forecast future financial trends by delineating links among different elements of a company's financial statements. They facilitate comparisons between a company's historical performance, peer companies within the same industry, and industry standards. These measures evaluate liquidity, solvency, profitability, and efficiency, while also revealing trends in financial performance. Spathis (2002) discovered that, with the exception of the Gross Profit-to-Assets and Inventory-to-Total Assets ratios, all financial measures examined had substantial correlations with falsified financial statements. Dani et al. (2013) further asserted that financial ratios can elucidate the prevalence of fraudulent reporting.

Dalnial et al. (2014) found that financial ratios can identify false financial statements. The study revealed a considerable disparity in the mean total debt to total asset ratio, suggesting that fraudulent enterprises exhibit greater leverage. The leverage ratio of total debt to total equity is a critical indicator of fraud detection; firms with elevated debt-to-equity ratios are more prone to fraudulent activities. It suggests that companies with a high total debt to total equity ratio are more prone to be categorised as fraudulent (Spathis, 2002).

Financial ratios play a key role in detecting financial statement fraud, including in evolutionary fraud analysis (Zhou & Kapoor, 2011) and through statistical and machine learning algorithms (Perols, 2011). They are used to identify misrepresentations in financial statements (Ilter, 2014) and by analysts to compare company strengths and weaknesses (Lan, 2012; Gropelli & Ehsan, 2000). Among various fraud detection techniques, financial ratio analysis is considered a widely used and effective method (Dalnial et al., 2014). As explained by Tsiouni (2022), financial ratios involve comparing financial statement numbers, with common ratios including liquidity, solvency, profitability, and activity ratios (Cengiz, 2020).

The literature introduces the use of financial ratios as a tool for financial statement analysis. Financial ratios measure the relationship between different figures in financial statements and are commonly used to detect red flags and assess a company's financial health. Recent studies have focused on the predictive ability of ratios. As such Chiang et al. (2018) investigated the predictive power of financial ratios for stock returns, finding that certain ratios, such as the price-earnings ratio and return on assets, can be indicative of future stock performance. Researchers have examined the relationship between financial ratios and future financial performance, including profitability, bankruptcy, and stock returns. For example, the importance of various categories of ratios, including leverage, profitability, asset composition, liquidity, and capital turnover, are discussed in relation to their potential indicators of financial statement fraud other than assessing a company's financial performance (Shah et al., 2021).

The literature proposes various indicators for detecting financial reporting fraud, including those utilised in this study: leverage, profitability, asset composition, liquidity, and capital turnover ratios (Dalnial et al., 2014; Somayyeh, 2015). The leverage ratio evaluates a company's utilisation of debt, with lower ratios often signifying more shareholder equity and enhanced protection against losses. Firms exhibiting elevated leverage ratios face increased bankruptcy risk and may distort financial statements to fulfil loan commitments (Somayyeh, 2015). Ratio analysis is essential for examining financial statements as it creates relationships among different financial elements, providing insights into a company's performance and fiscal well-being (Hery, 2015). Ratio analysis evaluates efficiency, economic problems, and present and future financial situations by comparing financial statement figures, providing essential information for investors (Naufal, 2014).

2.2.1 Profitability Ratio

The profitability ratio is a widely utilised indicator that enables organisations to assess their net profit in relation to total sales. This signifies managerial achievement, as management aims to enhance shareholder welfare. When organisations do not achieve their performance objectives, managers may engage in the manipulation of financial statements (Omoye and Eragbhe, 2014).

This manipulation is executed to uphold a favourable reputation among shareholders and creditors.

2.2.2 Liquidity Ratio

Liquidity reflects a company's capacity to fulfil its short-term financial commitments. It is a crucial element that instills the confidence investors need to retain their investments. A 1996 study by Kreutzfeldt & Wallace, referenced by Zainudin & Hashim (2016), indicated that companies with inadequate cash were more prone to perpetrating financial statement fraud compared to those with sufficient liquidity. A higher liquidity ratio often signifies that the corporation possesses a larger safety margin for settling its short-term obligations. Reduced liquidity levels, conversely, may motivate managers to perpetrate financial statement fraud (Omoye & Eragbhe, 2014). This indicates that a decrease in a company's liquidity correlates with a reduced probability of managers committing financial statement fraud.

2.2.3 Solvency Ratio

Hayes (2022) asserts that prospective business lenders predominantly employ the solvency ratio to assess a company's ability to fulfil its long-term debt obligations. The solvency ratio evaluates a company's financial health by calculating if its cash flows are sufficient to fulfil its long-term obligations. Solvency ratios are computed to determine a firm's long-term financial stability (Sharma, 2016). Solvency ratios, such as the current ratio, quick ratio, cash ratio, and asset-liability ratio, are essential for improving an organization's short-term and long-term solvency, influencing its ability to withstand financial risks and attain expected returns (Chen & Zhou, 2019). An unfavourable ratio may indicate that the firm is prone to default on its debt obligations.

2.2.4 Cash Flow Ratio

Cash flow ratios, a subset of financial ratios, assess a company's capacity to generate and effectively manage its cash flow. These ratios have been identified as valuable indicators for forecasting financial distress, particularly within the context of Malaysian companies (Kamaluddin et al., 2019). Das (2018) conducted an analysis of a company's financial performance using cash flow ratios, calculating 14 ratios over the period from 2004 to 2013. The study revealed that while the company faced challenges related to profitability, it was able to sustain adequate liquidity, solvency, and cash flow sufficiency.

Güleç & Bektaş (2019) found that cash flow ratios better assess liquidity and financial issues than traditional ratios in manufacturing firms. While Günay & Ecer (2020) examined the predictive power of cash flow ratios for financial failure within the Borsa İstanbul Manufacturing sector in 2018. Utilizing logistic regression and the Altman Z-score to assess financial failure, their findings indicated that cash flow-based ratios are effective indicators for predicting such outcomes (Çavuş et al., 2020).

2.2.5 Asset Composition Ratio

The asset composition ratio measures the proportion of current assets relative to total assets. It is a crucial instrument for evaluating the risk linked to a company's financial structure. Fraudulent

transactions are frequently employed to distort accounting, including sales and receivables (Tyas & Muhammad, 2018). Research indicated that receivables and inventories constitute a significant component of a company's assets in the context of financial statement fraud. The values of these receivables and inventories are influenced by subjective evaluations of uncollectable accounts and definitive inventory levels. Consequently, management may leverage this vulnerability to distort financial data (Spathis, 2002).

2.2.6 Efficiency Ratio

Efficiency ratios, commonly used to evaluate how effectively a company manages its assets and liabilities on a daily basis. Efficiency ratios offer a complementary approach to reviewing and evaluating performance by providing additional insight into operational efficiency beyond traditional KPIs (Richardson, 2017).

According to Gajjar (2023) Nestle India's Management Efficiency Ratio assesses the efficacy with which the corporation utilises its assets to create income and oversees its liabilities. Typically, efficiency ratio focusses on the company’s operations, drawing from data related to its current assets or liabilities.

Analysts often rely on these ratios to evaluate a company’s short-term performance. These ratios can be used to measure aspects such as receivables turnover, liability repayment, equity utilization, and overall management of inventory and equipment.

2.3 Financial Statement Fraud

A fraudulent financial statement can be seen as a type of fraud with the most harmful consequences (Reskino & Anshori, 2016). Financial Statement Fraud is a purposeful conduct by a party or an error in the presentation of the financial report that results in a major misstatement (Annisya et al., 2016). Koroy (2008) asserted that if an act is intentional and eludes the auditing process, it can severely compromise the financial reporting process; the presence of fraud has significant repercussions and results in substantial losses for the organisation. Financial statement fraud is characterised as deceptive financial reporting according to a black law dictionary (Priantara, 2013).

According to ACFE (2018), financial statement fraud occurs through overstatement of assets or revenue to improve financial performance, and understatement of liabilities or expenses to reduce obligations such as taxes. The COSO report (2010) identifies common financial statement fraud techniques, including improper revenue recognition and asset overstatement (Intal & Linh, 2002). Repousis (2016) adds fictitious income and concealment of liabilities.

Schilit et al. (2018) proposed many financial measures that may indicate dishonest financial reporting, referred to as the financial shenanigan’s technique. Numerous investigations analysing financial ratios for the identification of fraud in financial statements have been conducted by S. Goel (2013), Mohammed et al. (2021), and Sakti et al. (2020). Unlike studies focused on fraud

theory, the application of financial manipulation techniques in assessing signs of false financial reporting remains hardly explored.

One financial manipulation approach suggested by Schilit et al. (2018) is the identification of earnings manipulation, which is the most common tactic employed by management to distort sales and profits simultaneously.

2.4 Red Flag on Financial Statement Fraud

A red flag signifies a condition that is unusual or extraordinary (Widiyastuti & Pamudji, 2009). Red Flags serve to gather evidence of concealment, while conversion offers guidance on collecting and monitoring both direct and indirect evidence to prevent errors in court (Lokanan, 2019). Ozili (2020) asserts that fraud is intricate, and this intricacy can affect the methodologies employed by researchers in forensic accounting fraud studies. This assertion illustrates the significance of red flags in the early identification of potential fraud. Red Flags are signals of anomalies that require additional scrutiny by the company's officials. The presence of Red Flags does not invariably signify wrongdoing within the organisation; however, they are prevalent in nearly all instances of fraud, serving as a potential signal that fraudulent activity may have transpired (Amrizal, 2004).

A significant number of cases reported by companies stemmed from an inability to identify financial statement fraud at an early stage. Cases of financial statement fraud are generally concealed from the public and auditors (Hartanto et al., 2019). Consequently, recognising the warning signs is essential for identifying the symptoms. The existence of fraud indicators or red flags do not necessarily signify the occurrence of financial statement fraud (Albrecht et al., 2019). The established financial target, derived from the prior year's financial performance, has emerged as a concern (Darmawan & Saragih, 2017). This circumstance has exerted pressure on management to diligently pursue short-term objectives (Akbar, 2017). Under pressure, the corporation is likely to distort profits to achieve the established financial objectives.

2.5 Synthesis of The Above

Agency theory explains the relationship between agents (managers) and principals (shareholders), where differing interests can lead to fraudulent activities, such as financial statement manipulation. To address this, shareholders use incentives and monitoring to align interests. Financial ratio analysis plays a crucial role in detecting fraud by examining relationships between financial figures. Ratios help assess liquidity, profitability, and efficiency, and can reveal red flags of potential fraud. Recognizing these red flags early allows stakeholders to investigate and prevent fraudulent behavior, protecting the company's financial integrity and safeguarding the interests of its stakeholders.

3.0 METHODOLOGY

This article employs a systematic methodology for literature review. A systematic literature review offers an extensive summary of literature pertaining to a specific issue, theory, or methodology, integrating previous research to enhance the knowledge base (Paul & Criado, 2020).

4.0 DISCUSSION

Every user of financial statements, such as stakeholders, investors, and customers, heavily relies on published annual reports to make informed financial decisions. To ensure that these decisions are based on reliable information, financial statement ratios play a crucial role in identifying red flags that may indicate potential fraud. Financial ratio analysis not only provides an overview of a company's financial health but also helps detect signals of fraudulent financial reporting (Arum et al., 2022). According to Sakti et al. (2020) and Schilit et al. (2018), financial ratios can highlight signs of fraud when analyzing an entity's performance. Research by Aboud & Robinson (2020) in Ireland found that financial ratio analysis is the second most effective tool for detecting fraud, after data mining. Key ratios, including Profitability Ratio, Liquidity Ratio, Efficiency Ratio, Leverage Ratio, and Cash Flow Ratio, are particularly useful in identifying fraudulent financial statements (Sakti et al., 2020; Schilit et al., 2018; Kanapickienė & Grundienė, 2015).

4.1 Profitability Ratio

Schmidt (2022) stated that analysts and investors assess a business's capacity to generate profit relative to sales, balance sheet assets, operating expenses, and shareholders' equity over a certain timeframe through profitability ratios. This ratio illustrates the efficiency with which a corporation utilises its resources to produce profit and enhance shareholder value. This ratio comprises the Net Profit Margin Ratio, Return on Assets, and Return on Equity (Zainudin & Hashim, 2016). Carlson (2020) stated that the Net Profit Margin Ratio is determined by dividing net profit by revenue, indicating that a higher net profit margin signifies greater efficiency in converting sales into actual profit (Dan, 2013). The Return on Assets is calculated by dividing net income by total assets. Return on Equity is computed by dividing net income by the book value of equity. A higher ratio signifies greater efficiency in a company's management of its balance sheet to create profits (Claire Boyte-White, 2022).

If fraud occurs, net income may be artificially exaggerated, resulting in an unusually high profit margin ratio relative to previous periods. Fraudulent spending led to increased costs and a diminished profit margin ratio. Zainudin & Hashim (2016) asserted that the organisation distorts its profitability ratio due to fake financial figures disseminated to users. This is executed to exaggerate income and minimise expenses during periods of low profitability for the company. Serly and Eddy (2020) found a positive correlation between the profitability ratio of fraudulent enterprises, concluding that a higher profitability ratio indicates a greater propensity for fraudulent behaviour.

For example, from 2017 to 2021, Company ABC reported profits exhibited significant fluctuations over the years. The anticipated red flag suggests that a decline in the ratio signifies a substantial decrease in Company ABC's net profit. Over a five-year review, there are instances where Company ABC incurred losses despite reporting profits. Company ABC's profitability ratio was the lowest within its group, raising concerns as the group reported both increased profits and reduced profits from 2017 to 2021. Nevertheless, there is a fall in profit significantly attributed to manipulation of the profit figures.

4.2 Liquidity Ratio

The liquidity ratio assesses a company's capacity to fulfil its short-term liabilities. Liquidity is frequently employed as a criterion by external auditors to assess the viability of a company's continued existence (Handoko et al., 2020). This ratio comprises the Current Ratio, derived by dividing current assets by current liabilities, and the Quick Ratio. The Quick Ratio is determined by dividing a company's most liquid assets, such as cash, cash equivalents, marketable securities, and accounts receivable, by its current liabilities (Seth, 2023). Fern et al. (2023) asserted that a firm with a current ratio below 1.00 often lacks the capital to meet its short-term obligations when they are all due simultaneously, whereas a company with a current ratio exceeding 1.00 generally possesses the financial resources to satisfy all its short-term liabilities.

The interpretation of a low liquidity ratio may motivate managers to perpetrate misleading financial reporting. Zainudin & Hashim (2016) asserted that organisations experiencing liquidity issues are more prone to engage in fraudulent activities in their financial statements compared to those with stable liquidity ratios. Experiencing financial difficulties may compel the company to engage in fake financial reporting. This occurs if the organisation is linked to constrained liquidity conditions (Ongoro, 2018). Embezzlement and fraud are causing the ratio to decline, and in unpredictable economic conditions, this ratio will adversely reflect the organization’s working capital. A decline in the ratio could indicate that management could feel compelled to submit falsified financials (Alexander Thomas, 2017).

For example, Company ABC from the year 2018 till 2021, the group seems to be alarming as both ratios are less than 1.00 reflecting the group insufficient liquid assets to meet their financial obligations in the event of a financial crisis. The drastic change in the current ratio from 2017 to 2018 should cause a fraud examiner to look at these accounts in more details. In the quick ratio, it seems the same as the current ratio which drastically dropped from 1.07 to 0.28. If this drop does not concern the receivable days collection period, it would be a red flag that management could feel pressured to report fraudulent financials.

4.3 Solvency Ratio

Solvency ratios assess the proportion of firm assets financed by debt (Baraja & Yosya, 2019). This ratio assists users in assessing the company's financial health by allowing them to ascertain whether the company can fulfil its long-term financial obligations. The solvency ratio is sometimes referred to as the leverage or gearing ratio. This ratio comprises the Debt-to-Equity ratio and the Debt-to-Asset ratio. Alexander Thomas (2017) stated that the Debt-to-Equity ratio is determined by dividing total liabilities by total equity, whereas the Debt to Assets ratio is obtained by dividing total liabilities by total assets. The debt-to-equity ratio quantifies a company's financial leverage by comparing its debt to its equity. The debt to assets ratio quantifies a company's overall obligations in relation to its assets (Causal, 2022).

Serly & Eddy (2020) asserted that elevated bankruptcy risk is a consequence of high leverage, which impedes the company's ability to service its substantial debt. This transition will elevate the probability of misleading financial reporting as responsibility changes from the equity owner and manager to the debt owner (Zainudin & Hashim, 2016). Abrupt fluctuations in the ratio may prompt the fraud examiner to investigate the company further. The management will alter the financial

report to meet the stipulations of specific debt arrangements. The leverage ratio appears to have a good correlation with the detection of fraudulent actions (Nakashima, 2017; Sihombing & Raharjo, 2014).

For example, the Debt-to-Equity Ratio for Company ABC increased in 2017, but decreased in 2021, 2020, 2019, and 2018. However, the Debt to Asset Ratio increased in all 5 years. Overall, the Debt-to-Equity Ratio for Company ABC in 2017 is higher than 1.00 indicates that the group is highly geared and is using debt to pay for its continuing operations. However, in the other years, the Debt-to-Equity Ratio was less than 1.00 which indicates the group cannot afford to become overextended in the face of an inevitable downturn in sales and profits. As for the Debt to Asset Ratio, in 2017 and 2018, the ratio is less than 1.00 indicating that a greater portion of a company's assets is funded by equity. However, in the other 3 years, the Debt to Asset Ratio is higher than 1.00 indicates the group may be putting itself at risk of defaulting on its loans if interest rates were to rise suddenly.

4.4 Cash Flow Ratio

The Cash Flow Ratio quantifies the frequency with which a corporation can settle current liabilities using cash created over the same period. Nearly all of the ratios computed utilise the Cash Flow from Operations. Consistent with the red flag discourse, the ratio is determined by dividing Cash Flow from Operations by Sales. Stevanovic et al. (2013) asserted that the fabrication of fictitious revenue can generate a trace that results in a cash flow anomaly. The accruals section appears to be unaffected directly, rendering it undetectable by investors and auditors. Operating cash flow ratios may influence fraudulent activities (Sayida & Assagaf, 2020).

Sakti et al. (2020) asserted that the Operating Cash Flow Ratio can forecast financial statement fraud, demonstrating a significant gap in the detection of false income. Opportunities emerge as guardianship just addresses the accumulating aspect. The oversight of the accrual section will not detect the fraudulent income. However, dishonest income will affect the cash flow aspect. Fictitious revenue does not provide monetary inflows. An incongruity between the rise in sales and the increase in operating cash flow constitutes a warning sign. The Operating Cash Flow Ratio might identify this red flag. Warning signs emerged when income rose from the prior period, however cash flow remained stagnant.

For example, Company ABC, The Operating Cash Flow Ratio increased in 2021 and 2017 but decreased in 2018 till 2020. However, it seems that the Cash Flow Ratio for Company ABC in all 5 years, is less than 1.00 indicates that the group is facing short term cash flow problems which might lead to insufficient cash to meet the short-term financial obligations. This might trigger the management to be creative and raise the red flag in creating the figure that they want.

4.5 Asset Composition Ratio

Serly & Eddy (2020) described the asset composition ratio as the metric that measures the percentage of current assets relative to total assets, the percentage of receivables in relation to revenue, and the percentage of inventories compared to total assets. Zainudin & Hashim (2016) asserted that an increased asset composition ratio correlates with a heightened likelihood of a corporation engaging in misleading financial reporting. Analysis of financial accounts for

companies involved in fraud reveals that the firm's current assets primarily comprise receivables and inventory. The corporation engaged in inventory manipulation by failing to record the outmoded goods.

Certain financial indicators, including sales, accounts receivable, allowances for doubtful accounts, and inventory, are particularly susceptible to manipulation by management (Zainudin & Hashim, 2016). The management may distort account receivables by recognising sales prior to their actual earning, hence inflating the account receivables (Schilit et al., 2018). In the analysis of Fraudulent Financial Reporting, the current assets of companies predominantly comprise receivables and inventory. The accounts receivable and inventory rely on subjective opinion in evaluating uncollectable accounts and absolute inventories (Serly & Eddy, 2020). Consequently, due to the involvement of subjective judgement in assessing the value of these accounts, management may utilise them as instruments for financial statement manipulation. Dalnial et al. (2014) indicated that the asset composition ratio, represented by the inventory to total asset ratio, positively correlates with fraudulent companies.

For example, the ratio of current assets to total assets for Company ABC unusually higher compared to the industry benchmarks and the historical performance of Company ABC. This raised suspicion that the company might be inflating its current assets to create the illusion of financial strength. Other than that, Company ABC also might have overstated its account receivables by fabricating its customers and revenue figures. With both situations, asset composition ratio helps the accountant and auditors to identify the unusual concentrations of assets as it serves a valuable tool in detecting fraud by providing insights into distribution of assets within Company ABC.

4.6 Efficiency Ratio

The efficiency ratio is a measurement that enables company leaders to assess the effectiveness of a firm's resource utilisation. These ratios assist managers in pinpointing areas for enhancement in operations, asset management, and other business practices (NetSuite.com, 2022). This ratio comprises receivable turnover, inventory turnover, payable turnover, asset turnover, and capital turnover.

Alexander Thomas (2017) defined receivable turnover as net sales on account divided by average net receivables, measuring the frequency with which the receivables balance is converted during the accounting period. Inventory turnover is determined by dividing the cost of products sold by the average inventory. The inventory turnover ratio quantifies the frequency of inventory sales during a specified period, with a greater ratio deemed more advantageous.

The accounts payable turnover ratio is determined by dividing total purchases by average accounts payable. This is a short-term liquidity metric that assesses the speed at which a corporation settles its obligations to suppliers (Murphy, 2020). The asset turnover ratio is calculated by dividing net sales by average operating assets. This ratio assesses the efficacy of asset resource utilisation (Alexander Thomas, 2017). The capital turnover ratio measures a

company's ability to produce sales through the utilisation of its assets. Additionally, this ratio serves as a metric to assess management competencies in competitive contexts.

Alexander Thomas (2017) asserted that if fraudulent sales have been disclosed, it will be impossible to recover the illicit profits. The turnover of receivables will therefore diminish. An abrupt fluctuation in receivables may indicate potential fraud (Kanapickienė & Grundienė, 2015; Schilit et al., 2018). If the cost of products sold has risen owing to inventory theft, leading to a decrease in ending inventory without corresponding sales, then this ratio will be disproportionately elevated. When the company acquires less inventory than in prior years, it can conserve operating cash flow outflow, thereby rapidly enhancing operating cash flow (Schilit et al., 2018). Sakti et al. (2020) asserted that it is unsuitable since it may generate illusory gains by concealing liabilities. A red flag emerges when corporations delay the settlement of their commitments.

A low asset turnover ratio may suggest that a company is not optimising its asset potential, which could raise concerns for investors. Dalnial et al. (2014) asserted that a company's likelihood of committing fraud in its financial statements grows when it experiences limited capital turnover. The firm's inability to compete effectively may incentivise managers to partake in fraudulent financial reporting.

For example, Company ABC is an efficient manufacturing company known by the public. Company ABC is supposed to be efficient all the time. However, there is a sudden decline in the efficiency ratio of the company which gives insight to the auditors suspecting abnormal change in the company’s cost structure and operational effectiveness. This sudden change in the ratio can indicate the potentially fraudulent activities in Company ABC such as manipulation of revenue and misrepresentation of costs.

5.0 CONCLUSION

After thorough analysis of fraudulent financial reporting, red flags, fraud theories, and companies involved with financial misreporting, it is concluded that red flags serve as warnings for potential fraud within companies. Various indicators, guided by regulatory frameworks, can help detect whether a company is involved in fraudulent activities before making investment decisions. While fraud detection models are essential, agency theory also plays a crucial role in preventing fraudulent reporting. This theory, which focuses on the relationship between principals and agents, can help reduce conflicts of interest and mitigate the risk of financial statement manipulation.

The literature study emphasises the efficacy of financial ratios in forecasting fraudulent financial statements. The examination of annual trends in these ratios reveals instances where potential red flags or fraudulent actions may have arisen. Zainudin & Hashim (2016) asserted that the responsibility of preventing fraudulent financial reporting rests on management, who are

responsible for the preparation of financial statements. Auditors ought to regard financial ratio analysis as a mechanism for identifying potential fraud in their assessment of financial reports.

It is vital for company management to prioritize transparency and maintain a strong reputation, both domestically and internationally. A single instance of fraudulent financial reporting can severely damage a company's image, especially if repeated over multiple years. To foster a culture of integrity, management should aim to replace any negative organizational culture with one that emphasizes ethical behavior and performance excellence. Additionally, analysts and stakeholders must deepen their understanding of financial ratios and their implications. Ongoing education and training in financial analysis will enhance the ability to effectively interpret these ratios and use them to identify potential irregularities in financial reporting.

Regularly analyzing financial ratios enables the identification of trends and patterns, allowing for the detection of significant changes or anomalies that may indicate financial misreporting. Continuous monitoring of financial ratios helps uncover emerging red flags and triggers further investigation when necessary. Strong collaboration between finance, internal audit, compliance, and legal teams can facilitate a more comprehensive approach to fraud prevention and detection.

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