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Pressure, Opportunity, and Rationalization Effects on Fraudulent Financial Reporting in Indonesian Manufacturing

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Abstract

Purpose: This study examines the effects of pressure, opportunity, and rationalization on fraudulent financial reporting in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024.
Research Methodology: A quantitative approach with descriptive and verification methods was employed. Using purposive sampling, 67 of 195 manufacturing companies were selected, yielding 335 firm-year observations. Secondary data from annual reports were analyzed using multiple linear regression after classical assumption tests. Pressure was proxied by leverage, opportunity by changes in accounts receivable, rationalization by auditor turnover, and fraudulent financial reporting by the Beneish M-Score.
Results: The three variables jointly have a significant effect on fraudulent financial reporting. Individually, pressure has a negative insignificant effect, opportunity has a positive significant effect, and rationalization has a positive insignificant effect. Opportunity is the strongest determinant of fraudulent financial reporting.
Conclusions: Fraudulent financial reporting is primarily driven by opportunities for manipulation rather than financial pressure or rationalization. Strengthening internal controls and corporate governance is therefore essential to reduce fraud risk.
Contributions: This study extends the empirical evidence on Fraud Triangle Theory in Indonesian manufacturing companies and provides practical insights for regulators, auditors, investors, and management in preventing fraudulent financial reporting.
Limitations: The study is limited to manufacturing companies, three Fraud Triangle proxies, and the Beneish M-Score, which indicates potential rather than confirmed fraud.

Keywords: *Fraud Triangle, Fraudulent Financial Reporting, Opportunity, Pressure, Rationalization*

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1. Introduction

Financial statements are a critical source of information because they significantly influence decision-making within a company. Fraudulent activities in companies typically take two main forms: asset misappropriation and financial statement fraud (Dalnial, Kamaluddin, Sanusi, & Khairuddin, 2024). These statements represent management's accountability to stakeholders, reflecting the company's financial and operational performance over a specific period. Accurate financial reporting is essential because stakeholders rely on this information to make informed economic decisions (Agusputri & Sofie, 2022).

For publicly listed companies, financial statements play an even more vital role, as they affect investor confidence and investment decisions. Investors are naturally drawn to companies that demonstrate strong financial reporting because accurate statements signal potential profitability. As such, financial statements must be prepared honestly and comply with the Financial Accounting Standards (SAK) set by the Indonesian Institute of Accountants (IAI). Despite this, not all company managements fully understand the importance of presenting clean, fraud-free financial reports.

According to the PSAK, the primary objective of financial statements is to provide relevant information regarding a company's financial position, performance, and cash flows to aid the majority of users in making economic decisions. Consequently, businesses are expected to present financial information that is both relevant and free from fraud (Nuryuliza & Triyanto, 2022). However, in practice, the desire to produce reports that appear favorable can create incentives for manipulation, causing financial statements to diverge from the company's true condition.

Fraud in financial reporting has become increasingly prevalent across companies of all sizes, often resulting in significant losses for users such as investors, especially in public companies (Mardianto & Tiono, 2023). Fraud is a deliberate act, executed consciously to misuse company or collective resources for personal gain while presenting misleading information to conceal such misuse (Manurung & Hardika, 2022). Companies may use various methods to conceal fraudulent activities, generally motivated by goals such as maximizing profits or maintaining external credibility (Aprilia, 2021).

Several high-profile cases illustrate this phenomenon. For example, PT. Hanson International manipulated its 2016 annual financial statements by inflating revenue from land sales, violating PSAK 44 on real estate accounting, as recorded by the Financial Services Authority (OJK). Similarly, PT. Asuransi Jiwasraya altered its financial records in 2006, masking long-standing liquidity pressures, which culminated in enormous losses in 2018 and 2019.

Research identifies several frameworks for understanding the factors behind financial statement fraud, including the fraud diamond, fraud pentagon, and fraud triangle. This study focuses on the fraud triangle, which comprises three key elements: pressure, opportunity, and rationalization. Pressure arises from personal or financial demands, such as lifestyle needs or economic obligations, which individuals often perceive as unavoidable and may address covertly, potentially leading to fraudulent behavior. SAS No. 99 categorizes pressure into four types: financial stability, external pressure, personal financial needs, and financial targets (Hudayati, Nisa, & Sanusi, 2022).

Opportunity refers to the circumstances that allow managers to exploit weaknesses in company processes or internal controls. By assessing gaps or vulnerabilities, managers may find chances to commit fraudulent reporting. Access to assets, authority over procedures, and organizational roles often create opportunities for fraud (Darmayanti, Setiawan, & Ethika, 2021; Faradiza, 2022). SAS No. 99 classifies opportunities into three main categories: industry characteristics, ineffective monitoring, and organizational structure (Hudayati et al., 2022). Rationalization is the process of justifying fraudulent actions. Internal actors, such as managers or employees, may convince themselves that misusing company assets is acceptable, especially if they feel entitled to additional benefits or compensation. Individuals with lower moral standards are more prone to rationalizing unethical behavior as acceptable Mansor, & Abdullahi, 2023. Studies also show that auditor changes can serve as a proxy for rationalization because audit failures and litigation risks often rise following such turnovers (Mandal, 2024; Elumilade, Ogundeji, Achumie, Omokhoa, & Omowole, 2021).

Prior research on the fraud triangle's influence on financial statement fraud has produced inconsistent results. Mardianto and Tiono (2023) found that pressure and opportunity did not significantly affect financial statement fraud, whereas rationalization had a positive and significant effect. In contrast, Marfuah and Ardiami (2021) reported that pressure significantly influenced fraud, but opportunity and rationalization were not significant. These varying findings highlight the need for further study, particularly using more recent data.

Based on these considerations, this study aims to investigate the influence of pressure, opportunity, and rationalization on financial statement fraud in manufacturing companies listed on the Indonesia Stock Exchange between 2020 and 2024. Specifically, it seeks to determine whether pressure, opportunity, and rationalization affect fraudulent reporting practices and to clarify their relative importance in the current business environment. By addressing these questions, the research intends to contribute to a deeper understanding of the factors that drive financial statement fraud and provide insights for improving corporate governance and financial transparency.

2. Literature Review and Hypothesis/es Development

2.1 Agency Theory

Agency theory explains the relationship between principals and agents within a company, where the principal refers to the owner or shareholders, and the agent is the manager responsible for running the company. The principal delegates operational decisions to the agent based on a work contract, which includes the agent's rights, responsibilities, and compensation (Tekin & Polat, 2020). The primary goal of separating ownership from management is to maximize company profits efficiently through professional management. This separation can lead to potential conflicts of interest between principals, who seek high returns, and agents, who may prioritize higher personal compensation. Such conflicts require monitoring through reports provided by agents to principals (Harto & Tessa, 2022). Therefore, proper supervision and control are essential to ensure the company's objectives are achieved without harming either party.

Agency theory provides a strong theoretical foundation for understanding fraudulent financial reporting because information asymmetry between principals and agents creates opportunities for managers to act in their own interests rather than those of shareholders. Managers generally possess more comprehensive knowledge of the company's financial condition and operations, enabling them to manipulate financial information without immediate detection. This behavior becomes more likely when managers experience financial pressure, identify weaknesses in internal controls that create opportunities for manipulation, or rationalize unethical actions as being necessary to achieve organizational or personal objectives (Al-Faryan, 2024). Consequently, agency conflicts may encourage earnings manipulation and other forms of fraudulent financial reporting, particularly when monitoring mechanisms and corporate governance are ineffective. Therefore, strengthening governance practices, enhancing internal control systems, and improving transparency are essential to reducing agency problems and mitigating the risk of fraudulent financial reporting.

2.2 Fraud

2.2.1 Concept of Fraud

Fraud is a deliberate act of deception intended to secure personal gain while violating rules and causing losses to others (Mardianto & Tiono, 2023). Fraud can occur at any level of an organization, from employees to management and even owners. For example, during procurement processes, some employees may accept bribes from vendors to manipulate procurement decisions. Fraud manifests in various forms, including asset theft, information embezzlement, and falsification of records, including corruption. Modern fraud often leverages technology and mass communication rather than physical force, aiming to obtain large amounts of money more subtly (Laming & Setiawan, 2020).

Fraud generally occurs when individuals exploit weaknesses in organizational control systems to obtain financial or non-financial benefits. The occurrence of fraud is often influenced by a combination of internal and external factors, including financial pressure, inadequate supervision, ineffective internal controls, and unethical organizational cultures (Prakoso & Setiyorini, 2021). Among the various forms of fraud, fraudulent financial reporting is considered one of the most detrimental because it distorts the reliability of financial information used by investors, creditors, regulators, and other stakeholders in making economic decisions. Such manipulation may involve overstating revenues, understating liabilities or expenses, and intentionally misrepresenting financial performance to present a more favorable financial position (Homer, 2020). Consequently, fraudulent financial reporting not only undermines stakeholder confidence but also damages corporate reputation, increases legal and regulatory risks, and threatens the long-term sustainability of the organization. Therefore, understanding the underlying causes and characteristics of fraud is essential for developing effective prevention, detection, and corporate governance mechanisms (Puspitadewi & Sormin, 2021).

2.2.2 Characteristics of Fraud

Fraud can be identified through several indicators, such as accounting anomalies seen in irregular financial statements. Weaknesses in internal control, such as lack of segregation of duties, insufficient asset protection, or inadequate accounting procedures, are also signs of potential fraud. Other indicators include extravagant lifestyles, unusual behavior, analytical inconsistencies, and tips or complaints regarding suspected fraud, Early detection through these characteristics helps companies prevent greater losses due to fraudulent activities (Lokanan, Tran, & Vuong, 2019; Tarjo, Anggono, & Sakti, 2021).

Recognizing these fraud indicators is essential for organizations to establish effective fraud prevention and detection systems. Companies that regularly monitor financial statement anomalies, strengthen internal controls, and implement robust corporate governance practices are better positioned to identify suspicious activities before they develop into significant financial losses. In addition, analytical procedures, internal audits, whistleblowing mechanisms, and continuous monitoring of high-risk transactions can enhance the early detection of fraudulent practices (Adewale, Olorunyomi, & Odonkor, 2022) From the perspective of Fraud Triangle Theory, these indicators often reflect the existence of pressure, opportunity, and rationalization within an organization. Therefore, identifying fraud characteristics not only assists in detecting potential fraudulent financial reporting but also enables management to implement corrective actions that improve transparency, accountability, and the overall integrity of financial reporting (Elumilade, Ogundeji, Achumie, Omokhoa, & Omowole, 2021).

2.2.3 Symptoms and Causes of Fraud

Symptoms of fraud differ between management and employees. Among management, indicators include conflicts at the top management level, low employee morale, high external complaints, and significant inventory discrepancies (Aprilia & Hardi, 2021). Among employees, fraud may be evident through undocumented expenditures, duplicate invoices, missing assets, or destruction of payment records. The causes of fraud include financial or personal pressures, weak internal controls, and opportunities for personal gain through abuse of position. Therefore, effective internal control systems and regular supervision are critical to minimizing fraud risks (Beneish, 2022).

The presence of these symptoms does not necessarily confirm the occurrence of fraud; however, they serve as important warning signals that require further investigation by management, internal auditors, and external auditors. Organizations that fail to respond promptly to these indicators may create an environment in which fraudulent behavior can develop and remain undetected. According to Fraud Triangle Theory, fraud is more likely to occur when financial or personal pressure is accompanied by opportunities arising from ineffective internal controls and is justified through rationalization by the perpetrators (Mardianto, & Tiono, 2023; Darmayanti, Setiawan, & Ethika, 2021; Cheliatsidou, Sariannidis, Garefalakis, Azibi, & Kagias, 2023). Therefore, companies should establish comprehensive fraud risk management practices, including continuous monitoring, regular internal audits, effective whistleblowing systems, and a strong ethical culture. These measures can reduce fraud risk by limiting opportunities for misconduct, strengthening accountability, and promoting transparency in financial reporting (Grigoras-Ichim, Bordeianu, & Morosan-Danila, 2024) .

2.2.4 Elements of Fraud

The elements of fraud include material misrepresentation performed intentionally or recklessly, which results in harm to others (Hunter, Shannon, & Amoroso, 2023). Fraud also involves the intent to induce reactions from victims by presenting false or misleading information regarding financial or operational conditions. These elements distinguish fraud from ordinary human error because fraudulent acts are characterized by deliberate deception aimed at obtaining personal or organizational benefits (Ismail, Ramlee, & Abas, 2022). Material misrepresentation is considered fraudulent when it influences the economic decisions of users of financial information, such as investors, creditors, regulators, and other stakeholders. Consequently, fraud not only violates legal and ethical standards but also undermines the credibility of financial reporting and reduces stakeholder confidence in the organization's integrity (Hashim, Salleh, Shuhaimi, & Ismail, 2020).

Understanding the elements of fraud highlights that fraud is not merely an administrative error but a deliberate act that causes tangible financial and non-financial harm. Knowledge of these elements provides the foundation for developing effective fraud prevention and detection strategies within organizations. In the context of fraudulent financial reporting, recognizing the existence of intentional misrepresentation enables management, auditors, and regulators to identify potential fraud risks at an early stage (Jing, 2022). Organizations can strengthen fraud prevention by implementing effective internal controls, promoting ethical corporate values, enhancing transparency in financial reporting, and conducting regular internal and external audits. Therefore, a comprehensive understanding of the elements of fraud is essential for improving the reliability of financial information, reducing information asymmetry, and supporting sound corporate governance practices that protect the interests of shareholders and other stakeholders (Mohanty & Rai, 2022).

2.2.5 Types of Fraud

Fraud can be classified into several types, including asset misappropriation, fraudulent financial reporting, and corruption. Asset misappropriation may involve cash or non-cash theft, while fraudulent financial reporting can be detected through vertical and horizontal analysis and financial ratios (Hashim, Salleh, Shuhaimi, & Ismail, 2020). Corruption may include conflicts of interest, collusion, or bribery. Prevention strategies include rigorous employee selection, training, and management of dissatisfied employees. Implementing these measures helps reduce the likelihood of internal fraud (Rashid, Al-Mamun, Roudaki, & Yasser, 2022).

Among these types of fraud, fraudulent financial reporting has received considerable attention because of its widespread impact on investors, creditors, regulators, and other stakeholders. Unlike asset misappropriation, which generally results in direct financial losses to an organization, fraudulent financial reporting distorts the credibility of financial information and misleads users in making economic decisions (Setiawan & Tarjo, 2022). Such manipulation may involve the intentional overstatement of revenues, understatement of liabilities or expenses, and inappropriate recognition of assets to portray a stronger financial position than actually exists. Because these practices are often difficult to detect, organizations should strengthen internal control systems, enhance corporate governance, and ensure the effectiveness of both internal and external audits. These preventive measures can improve the reliability of financial reporting, reduce information asymmetry, and minimize the risk of financial statement fraud, thereby supporting greater transparency and accountability within the organization (Ramos & Blazquez, 2019).

2.2.6 Fraud Triangle Theory

Fraud Triangle Theory was introduced by Cressey (1953) to explain the conditions that motivate individuals to commit fraud. According to this theory, fraudulent behavior occurs when three elements coexist: pressure, opportunity, and rationalization. Pressure refers to financial or personal circumstances that motivate individuals to engage in fraudulent behavior, opportunity arises from weaknesses in internal controls or governance systems that allow fraud to occur, and rationalization represents the justification used by perpetrators to convince themselves that their unethical actions are acceptable (Cheliatsidou, Sariannidis, Garefalakis, Azibi, & Kagias, 2023). Although several alternative fraud theories, such as the Fraud Diamond, Fraud Pentagon, and Fraud Hexagon, have been developed, the Fraud Triangle Theory remains one of the most widely applied frameworks for explaining fraudulent financial reporting because of its simplicity and strong empirical support (Aprillia, Cicilia, & Pertiwi, 2023; Kagias, Cheliatsidou, Garefalakis, Azibi, & Sariannidis, 2022; Mandal, 2024).

Fraud Triangle Theory has been extensively used in accounting and auditing research to explain fraudulent financial reporting. The theory suggests that fraud rarely results from a single factor but rather from the interaction of pressure, opportunity, and rationalization (Cheliatsidou et al., 2023). In the context of financial reporting, managers experiencing financial pressure may manipulate financial statements when internal control systems provide opportunities and when they are able to justify such actions. Therefore, this theory provides a relevant conceptual foundation for examining the determinants of fraudulent financial reporting in manufacturing companies (Mandal, 2024).

2.3 Pressure

Pressure refers to the motivation or incentive that encourages individuals to commit fraud. According to SAS No. 99, pressure may arise from financial instability, excessive financial targets, external financing requirements, or personal financial problems (Hudayati, Nisa, & Sanusi, 2022). Managers facing significant pressure to achieve performance targets or maintain the company's financial condition may manipulate accounting information to present favorable financial results. Consequently, financial pressure is considered one of the primary factors increasing the likelihood of fraudulent financial reporting (Baridwan & Subroto, 2024).

In this study, pressure is measured using the leverage ratio because companies with high debt obligations often experience greater pressure to maintain profitability and comply with debt covenants (Narsa, Afifa, & Wardhaningrum, 2023). High leverage increases management's responsibility to satisfy creditors and investors, creating incentives to manipulate financial statements. Previous studies have frequently used leverage as a proxy for pressure, suggesting that companies with higher debt levels are more susceptible to financial reporting fraud due to increased financial stress and performance expectations (Yulistyawati, Suardikha, & Sudana, 2019; Achmad, Ghozali, & Pamungkas, 2022; Nuristya, & Ratmono, 2022).

2.4 Opportunity

Opportunity refers to conditions that enable fraud to occur because of ineffective monitoring, weak internal controls, or inadequate corporate governance. According to the Fraud Triangle Theory, opportunity is a necessary condition for fraudulent behavior because individuals are unlikely to commit fraud if they believe their actions will be detected or prevented (Lartey, Akolgo, Jaladi, Ayeduvor, & Afriyie, 2023). Weak segregation of duties, insufficient supervision, poor documentation, ineffective audit procedures, and inadequate oversight by management or the board of directors create opportunities for managers or employees to manipulate accounting information without immediate detection. In addition, information asymmetry between management and stakeholders provides greater discretion for managers to conceal financial irregularities, thereby increasing the likelihood of fraudulent financial reporting. Therefore, organizations with ineffective internal control systems are generally more vulnerable to financial statement manipulation than those with strong governance and monitoring mechanisms (Kulmie & Ibrahim, 2024).

TIn this study, opportunity is measured using changes in accounts receivable, reflecting industry characteristics that may facilitate earnings manipulation. Accounts receivable require considerable managerial judgment regarding credit policies, the estimation of doubtful accounts, and the timing of revenue recognition, making them susceptible to manipulation. Significant increases in receivables may indicate aggressive credit sales, premature revenue recognition, or intentional overstatement of sales to improve reported financial performance (Rashid, 2022). Such practices can create discrepancies between reported earnings and actual cash inflows, potentially masking the company's true financial condition. Consequently, changes in accounts receivable are widely used as a proxy for opportunity because they capture potential weaknesses in financial reporting processes and internal control systems. Companies experiencing unusual growth in receivables should therefore receive greater attention from auditors, investors, and regulators, as these conditions may signal an increased risk of fraudulent financial reporting (Ge, Li, Liu, & McVay, 2021).

2.5 Rationalization

Rationalization refers to the cognitive process through which individuals justify unethical behavior to make fraudulent actions appear acceptable. According to the Fraud Triangle Theory, rationalization is the psychological mechanism that enables perpetrators to reconcile fraudulent actions with their personal values and moral standards (Aksa, Irianto, & Bawono, 2020). Individuals may convince themselves that fraudulent behavior is temporary, necessary to protect the organization, or justified because they believe they have been treated unfairly or deserve greater rewards. In many cases, perpetrators perceive their actions as harmless or intend to correct the manipulated information in the future. Without such justification, individuals are more likely to experience feelings of guilt, moral conflict, and fear of consequences, which reduce their willingness to engage in fraudulent activities. Therefore, rationalization is regarded as a critical psychological element that transforms motivation and opportunity into actual fraudulent behavior (Kon, Lim, Choong, Paloosamy, & Low, 2024) .

In empirical studies, rationalization is difficult to observe directly because it reflects an individual's beliefs, attitudes, and ethical reasoning rather than observable organizational conditions (Thomas, 2019). Consequently, researchers frequently rely on proxy variables to measure this construct. In this study, rationalization is represented by auditor turnover (DCHANGE), which is commonly used to indicate potential attempts by management to justify or conceal aggressive financial reporting practices. Frequent auditor changes may reduce audit continuity, limit the auditor's understanding of the company's financial reporting patterns, and potentially weaken the effectiveness of fraud detection (Matute, Sánchez-Torelló, & Palau-Saumell, 2021). Although auditor turnover does not necessarily indicate fraudulent financial reporting, it may signal management's intention to reduce external scrutiny or create a more favorable audit environment. Therefore, auditor turnover is considered an appropriate proxy for rationalization and has been widely adopted in previous studies examining the determinants of fraudulent financial reporting (Hormati & Pesudo, 2021).

2.6 Beneish M-Score

The Beneish M-Score, developed by Beneish (1999) is one of the most widely used analytical models for detecting the likelihood of fraudulent financial reporting. Rather than directly identifying fraud, the model estimates the probability that a company has manipulated its earnings by analyzing financial statement information. The Beneish M-Score combines eight financial ratios related to receivables, gross margins, asset quality, sales growth, depreciation, administrative expenses, leverage, and accruals to assess the risk of earnings manipulation. Companies with an M-Score greater than −2.22 are generally classified as having a higher likelihood of financial statement manipulation (Christy & Stephanus, 2022).

The Beneish M-Score has been extensively adopted in accounting and auditing research because it provides an objective and practical approach to identifying companies with potential financial reporting irregularities using publicly available financial data. Compared with conventional financial ratio analysis, the model offers greater predictive capability by simultaneously evaluating multiple indicators associated with earnings manipulation (Miharsi, Gamayuni, & Dharma, 2024; Sankar, & Bhanawat, 2024). Consequently, this study employs the Beneish M-Score as the proxy for fraudulent financial reporting to assess whether pressure, opportunity, and rationalization influence the likelihood of financial statement fraud among manufacturing companies listed on the Indonesia Stock Exchange during the 2020–2024 period

3. Research Framework

Figure 1 presents the conceptual framework of this study. Drawing upon the Fraud Triangle Theory, the framework proposes that pressure, opportunity, and rationalization are key determinants of fraudulent financial reporting. Accordingly, this framework provides the theoretical basis for examining the direct effects of these three variables on fraudulent financial reporting and for developing the research hypotheses.

4. Hypothesis Development

Based on the theoretical framework, the following research hypotheses can be proposed:

H_1: Pressure has a positive effect on fraudulent financial reporting.

H_2: Opportunity has a positive effect on fraudulent financial reporting.

H_3: Rationalization has a positive effect on fraudulent financial reporting.

5. Research Methodology

5.1 Research Design

This study employed a quantitative approach using descriptive and verification research designs to examine the effects of pressure, opportunity, and rationalization on fraudulent financial reporting in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period.

5.2 Population and Sample

The population consisted of all manufacturing companies listed on the IDX during the study period. The sample was selected using proportional stratified sampling to ensure representation across manufacturing subsectors. Companies were included based on the availability of complete annual reports and financial data and continuous listing on the IDX without delisting. The final sample comprised 67 companies observed over five years.

5.3 Variables and Measurement

This study included three independent variables and one dependent variable. Pressure was proxied by the leverage ratio to represent financial and organizational pressure. Opportunity was measured by changes in accounts receivable, reflecting potential weaknesses in internal control. Rationalization was represented by auditor turnover (DCHANGE). The dependent variable, fraudulent financial reporting, was measured using the Beneish M-Score, which evaluates financial statements through eight financial ratios to identify potential earnings manipulation.

5.4 Data Collection

This study used secondary data obtained from published annual reports and financial statements of the selected companies. Data were collected through document analysis and processed using descriptive statistics to summarize the characteristics of the research variables.

5.5 Data Analysis

The data were analyzed using multiple linear regression after fulfilling the classical assumption tests, including normality, multicollinearity, heteroskedasticity, and autocorrelation. Hypotheses were tested simultaneously using the F-test and partially using the t-test at a 5% significance level. In addition, correlation analysis was conducted to examine the strength and direction of the relationships among variables, while the coefficient of determination (R^2) was used to assess the explanatory power of the regression model.

6. Results and Discussions

6.1 Results

This study analyzed 67 manufacturing companies listed on the Indonesia Stock Exchange (IDX) over the 2020–2024 period, resulting in 335 observations. The sample was selected using proportional sampling across three subsectors: Industrial & Chemical, Miscellaneous Industry, and Consumer Goods. Descriptive statistics show variations in financial pressure, opportunity, and rationalization among the companies, which are key determinants for assessing the risk of fraudulent financial reporting. Financial pressure, measured by leverage, fluctuated across the sample. The highest pressure values in 2020–2022 were observed in Primarindo Asia Infrastructure, while Alumindo Light Metal Industry recorded the highest values in 2023–2024. Conversely, the lowest pressure values were found in Intanwijaya International, Emdeki Utama, and Indospring during different years. The average pressure ratio across the sample was 0.4489, indicating moderate leverage levels within the generally acceptable range of 0.6–0.7.

Opportunity, representing the potential for manipulation through factors such as receivables, exhibited variability among companies. The maximum opportunity was observed in Merck, Mustika Ratu, KMI Wire & Cable, and Voksel Electric, while the minimum occurred in Budi Starch & Sweetener, Saranacentral Bajatama, Asia Pacific Investama, and Martina Berto. Overall, the mean opportunity score was very low (0.0050), suggesting limited exploitable opportunity for fraud across the sample.

Rationalization, indicated by auditor changes, showed that 46% of the companies in the sample replaced their auditors during the study period. Such changes can signal potential justification for fraudulent activities. However, despite this, the majority of companies maintained stable audit relationships, indicating a general adherence to financial reporting standards.

Finally, the M-Score analysis for fraudulence in financial reporting showed that the average score across all companies was -2.3771, with a maximum of 3.933 and a minimum of -6.016. The highest risk year was 2021, and the lowest was 2024. Overall, these results indicate that while variations in pressure, opportunity, and rationalization exist, the overall risk of fraudulent financial reporting among manufacturing companies remains relatively low.

6.2 Discussion

The results indicate that financial pressure among Indonesian manufacturing companies is moderate and stable, with peaks in certain companies during specific years. According to prior research Cressey (1953) high leverage may increase the incentive to commit fraud. However, the observed average leverage levels suggest that most firms are operating within acceptable risk boundaries, reducing the likelihood of financially motivated fraud.

Opportunity, measured by variables such as accounts receivable ratios and industry conditions, shows that while some companies face conditions conducive to fraud, the overall mean value is extremely low. This aligns with previous studies suggesting that strong internal controls and governance structures mitigate opportunities for management to manipulate financial statements (Velte, 2023). Therefore, opportunity alone does not appear to be a major driver of fraud in this sample.

Rationalization, indicated by auditor changes, presents an interesting dynamic. Nearly half of the companies experienced auditor changes, which can serve as a mechanism for management to justify unethical reporting practices. Nevertheless, the limited frequency of high M-Score events implies that rationalization alone did not lead to widespread fraudulent activity. This supports the notion that rationalization is only one component of the fraud triangle and requires the presence of both pressure and opportunity to significantly influence fraudulent behavior.

The M-Score results further confirm the overall low risk of financial statement fraud among these companies. The average M-Score remained below the -2.22 threshold for non-fraud classification in most years, with only 2021 showing a marginal increase. These findings suggest that regulatory oversight, corporate governance practices, and audit quality are effective in maintaining financial reporting integrity in the manufacturing sector.

In conclusion, the integrated analysis of pressure, opportunity, and rationalization demonstrates that while individual risk factors exist, their combined effect on fraudulent financial reporting is minimal. This highlights the importance of maintaining strong corporate governance and internal control systems. Firms should continue monitoring these factors, especially leverage and auditor changes, to proactively prevent potential misconduct in the future.

7. Conclusions

This study aimed to examine the effects of pressure, opportunity, and rationalization on fraudulent financial reporting among manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024. Using proportional sampling, 67 companies were selected from a population of 195, and the data were analyzed using descriptive statistics and multiple linear regression with SPSS 22.0.

The results indicate that financial pressure does not significantly influence fraudulent financial reporting. Although initially hypothesized to have a positive effect, the analysis revealed an insignificant negative relationship, suggesting that management does not alter financial statements simply due to debt-related pressure. Companies often have multiple sources of funding, such as issuing shares, which reduce reliance on creditors and mitigate pressure-induced fraud.

In contrast, opportunity was found to have a significant positive effect on fraudulent financial reporting. Weak cash flow, high receivables, and inventory from previous periods provide management with opportunities to manipulate reports, especially in environments with information asymmetry between managers and shareholders. Skilled managers can exploit accrual components within the flexibility allowed by accounting standards to meet personal or corporate objectives.

Meanwhile, rationalization, measured by auditor changes, was found to have no significant effect on fraudulent financial reporting. Auditor replacement in the sampled companies was primarily compliance-driven, based on Indonesian Ministry of Finance regulations, rather than an attempt to conceal prior misconduct.

Overall, the study concludes that while opportunities exist that could facilitate fraudulent reporting, pressure and rationalization are not major contributing factors in the observed manufacturing companies. The risk of fraudulent financial reporting is therefore present but limited, emphasizing the importance of internal controls, ethical culture, and governance. Based on the findings of this study, several recommendations can be suggested for both future research and practical applications. For researchers, it is important to allocate sufficient time for data collection to ensure accuracy and reduce the presence of outliers.

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Author Contributions

AFS contributed to the conceptualization, methodology, data curation, formal analysis, investigation, and writing of the original draft. Z contributed to the research design, methodology validation, supervision, manuscript review, and editing. S contributed to data interpretation, visualization, manuscript revision, and final review. All authors contributed to the interpretation of the results, approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Conflict of Interest

The authors declare that there are no financial, professional, or personal relationships that could have influenced the work reported in this manuscript. The authors have no competing interests to disclose.

References

Achmad, T., Ghozali, I., & Pamungkas, I. D. (2022). Hexagon fraud: Detection of fraudulent financial reporting in state-owned enterprises Indonesia. *Economies*, *10*(1), 13. https://doi.org/10.3390/economies10010013

Adewale, T. T., Olorunyomi, T. D., & Odonkor, T. N. (2022). Blockchain-enhanced financial transparency: A conceptual approach to reporting and compliance. *International Journal of Frontiers in Science and Technology Research*, *2*(1), 024-045. https://doi.org/10.53294/ijfstr.2022.2.1.0027

Agusputri, H., & Sofie, S. (2022). Faktor - Faktor Yang Berpengaruh Terhadap Fraudulent Financial Reporting Dengan Menggunakan Analisis Fraud Pentagon. *Jurnal Informasi, Perpajakan, Akuntansi, Dan Keuangan Publik*, *14*(2), 105. https://doi.org/10.25105/jipak.v14i2.5049

Aksa, A. F., Irianto, B. S., & Bawono, I. R. (2020). The urgency of rationalization for unethical behavior and accounting fraud. *Jurnal Akuntansi Multiparadigma*, *11*(3), 653-664. https://doi.org/10.21776/ub

Al-Faryan, M. A. S. (2024). Agency theory, corporate governance and corruption: An integrative literature review approach. *Cogent social sciences*, *10*(1), 2337893. https://doi.org/10.1080/23311886.2024.2337893

Aprilia, A. (2021). Analisis Pengaruh Fraud Pentagon Terhadap Kecurangan Laporan Keuangan Menggunakan Beneish Model Pada Perusahaan Yang Menerapkan Asean Corporate Governance Scorecard. *Jurnal ASET (Akuntansi Riset)*, *9*(1), 101. https://doi.org/10.17509/jaset.v9i1.5259

Aprilia, R., Hardi, H., & A, A. (2021). Pengaruh Financial Stability, Personal Financial Need, Ineffective Monitoring, Change In Auditor Dan Change In Director Terhadap Financial Statement Fraud Dalam Perspektif Fraud Diamond (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efe. *Jurnal Online Mahasiswa Fakultas Ekonomi Universitas Riau*, *4*(1), 1472-1486.

Aprillia, A., Cicilia, O., & Pertiwi Sergius, R. (2023). The Effectiveness of Fraud Triangle on Detecting Fraudulent Financial Statement: Using Beneish Model and the Case of Special Companies. *Jurnal Riset Akuntansi Dan Keuangan*, *3*(3), 786. https://doi.org/10.17509/jrak.v3i3.6621

Baridwan, Z., & Subroto, B. (2024). Pressure and opportunity as drivers of fraudulent financial reporting intention: An experimental study. *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, *8*(1), 124-137. https://doi.org/10.24034/j25485024.y2024.v8.i1.6221

Beneish, Messod D., Charles M.C. Lee, D. Craig Nichols. (2022). Fraud Detection And Expected Returns. *Social Science Research Network, link:*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1998387

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

Cheliatsidou, A., Sariannidis, N., Garefalakis, A., Azibi, J., & Kagias, P. (2023). The international fraud triangle. *Journal of Money Laundering Control*, *26*(1), 106-132. https://doi.org/10.1108/JMLC-09-2021-0103

Christy, Y. E., & Stephanus, D. S. (2022). Pendeteksian Kecurangan Laporan Keuangan dengan Beneish M-Score pada Perusahaan Perbankan Terbuka. *Jurnal Akuntansi Bisnis*, *16*(2), 148. https://doi.org/10.24167/jab.v16i2.1560

Cressey, D. (1953). *Others people's money: A study in the social psychology of embezzlement*. IL: Free Press.

Dalnial, H., Kamaluddin, A., Sanusi, Z. M., & Khairuddin, K. S. (2024).

Darmayanti, Y., Setiawan, I., & Ethika, E. (2021). Determinan Financial Statement Fraud Dengan Menggunakan Pendekatan Fraud Triangle. *Akuntabilitas*, *13*(1), 1-18. https://doi.org/10.29259/ja.v12i2.9339

Elumilade, O. O., Ogundeji, I. A., Achumie, G. O., Omokhoa, H. E., & Omowole, B. M. (2021). Enhancing fraud detection and forensic auditing through data-driven techniques for financial integrity and security. *Journal of Advanced Education and Sciences*, *1*(2), 55-63. https://doi.org/10.54660/.jaes.2021.1.2.55-63

Faradiza, S. A. (2022). Fraud Pentagon Dan Kecurangan Laporan Keuangan. *EkBis: Jurnal EkonomiDanBisnis*, *2*(1), 1. https://doi.org/10.14421/ekbis.2022.2.1.1060

Ge, W., Li, Z., Liu, Q., & McVay, S. (2021). Internal control over financial reporting and resource extraction: Evidence from China. *Contemporary Accounting Research*, *38*(2), 1274-1309. https://doi.org/10.1111/1911-3846.12653

Grigoras-Ichim, C. E., Bordeianu, O. M., & Morosan-Danila, L. (2024). The importance of the financial audit in the identification of fraud and errors recorded by companies. *Management*, *43*(2), 225-240. https://doi.org/10.4316/ejafb.2024.12106

Harto, C. T. & P. (2022). Pengujian Teori Fraud Pentagon Pada Sektor Keuangan Dan erbankan Di Indonesia. *Simposium Nasional Akuntansi, 1–21*.

Hashim, H. A., Salleh, Z., Shuhaimi, I., & Ismail, N. A. N. (2020). The risk of financial fraud: A management perspective. *Journal of Financial Crime*, *27*(4), 1143-1159. https://doi.org/10.1108/JFC-04-2020-0062

Homer, E. M. (2020). Testing the fraud triangle: A systematic review. *Journal of financial crime*, *27*(1), 172-187. https://doi.org/10.1108/jfc-12-2018-0136

Hormati, G. A., & Pesudo, D. A. A. (2021). Pengaruh Tekanan, Kesempatan, Rasionalisasi dan Kemampuan Terhadap Kecenderungan Aparatur Sipil Negara dalam Melakukan Kecurangan Akuntansi Studi Empiris Satuan Kerja Perangkat Daerah Kabupaten Bolaang Mongondow Timur. *Jurnal Ilmiah Akuntansi Dan Humanika*, *9*(2), 172-190.

Hudayati, A., Nisa, T. K., & Sanusi, Z. M. (2022). Financial pressure and related party transactions on financial statement fraud: Fraud triangle perspective. *International Journal of Business and Emerging Markets*, *14*(2), 213-230. https://doi.org/10.1504/IJBEM.2022.121903

Hunter Jr, R. J., Shannon, J. H., & Amoroso, H. J. (2023). A teaching note on misrepresentation and fraud. *Education Quarterly Reviews*, *6*(2). https://doi.org/10.31014/aior.1993.06.02.742

Ismail, N., Ramlee, Z., & Abas, A. (2022). Is the Macau scam a fraud?. *Journal of Financial Crime*, *29*(1), 342-354. https://doi.org/10.1108/JFC-01-2021-0007

Jing, Z. (2022). Fabricating insurance subject matter and defrauding insurance money: A civil wrong or a criminal offence?. *Asia Pacific Law Review*, *30*(1), 145-166. https://doi.org/10.1080/10192557.2022.2045710

Kagias, P., Cheliatsidou, A., Garefalakis, A., Azibi, J., & Sariannidis, N. (2022). The fraud triangle–an alternative approach. *Journal of Financial Crime*, *29*(3), 908-924. https://doi.org/10.1108/JFC-07-2021-0159

Kon, Z. S., Lim, Y. H., Choong, Y. O., Paloosamy, J. R., & Low, B. T. (2024). The influence of pressure on intention to commit fraud: The mediating role of rationalization and opportunities. *Asian Journal of Business Ethics*, *13*(1), 175-195. https://doi.org/10.1007/s13520-024-00192-x

Kulmie, D. A., & Ibrahim, M. S. (2024). Bank corporate governance: Shield against fraud. *Journal of Ecohumanism*, *3*(3), 1917-1932. https://doi.org/10.62754/joe.v3i3.3582

Laming, R. F., & Setiawan, A. (2020). Determinan Fraudulent Financial Reporting Pada Perusahaan Perbankan Di Indonesia Dengan Menggunakan Fraud PentagonTheory. *Simak*, *18*(02), 203-216. https://doi.org/10.35129/simak.v18i02.148

Lartey, P. Y., Akolgo, I. G., Jaladi, S. R., Ayeduvor, S., & Afriyie, S. O. (2023). Recent advances in internal control: Soft control overcoming the limits of hard control. *Financial Metrics in Business*, *4*(1), 289-302. https://doi.org/10.25082/FMB.2023.01.004

Lokanan, M., Tran, V., & Vuong, N. H. (2019). Detecting anomalies in financial statements using machine learning algorithm: The case of Vietnamese listed firms. *Asian Journal of Accounting Research*, *4*(2), 181-201. https://doi.org/10.1108/AJAR-09-2018-0032

Mandal, A., & S, A. (2024). Fathoming fraud: Unveiling theories, investigating pathways and combating fraud. *Journal of financial crime*, *31*(5), 1106-1125. https://doi.org/10.1108/JFC-06-2023-0153

Mansor, N., & Abdullahi, R. (2023). Understanding the Fraud Triangle Theory and Fraud Diamond Theory. *Understanding the Convergent and Divergent For Future Research. International Journal of Academic Research in Accounting, Finance and Management Sciences, 5(October 2023), 38–45*. https://doi.org/10.6007/IJARAFMS/v5-3/1823

Manurung, D. T. H., & Hardika, A. L. (2022). Analysis of factors that influence financial statement fraud in the perspective fraud diamond: Empirical study on banking companies listed on the Indonesia Stock Exchange year 2012 to 2014. Paper presented at International Conference on Accounting Studies (ICAS), August. www.icas.my.

Mardianto, M., & Tiono, C. (2023). Analisis Pengaruh Fraud Triangle Dalam Mendeteksi Kecurangan Laporan Keuangan. *Jurnal Benefita*, *1*(1), 87. https://doi.org/10.22216/jbe.v1i1.3349

Marfuah, & Ardiami, Kinanti Putri. (2021). Model Beneish M-Score untuk Mendeteksi Kecurangan pada Perusahaan Perbankan di Indonesia. *Jurnal Optimum*, *8*(2), 135-149.

Matute, J., Sánchez-Torelló, J. L., & Palau-Saumell, R. (2021). The influence of organizations' tax avoidance practices on consumers' behavior: The role of moral reasoning strategies, political ideology, and brand identification. *Journal of Business Ethics*, *174*(2), 369-386. https://doi.org/10.1007/s10551-020-04610-5

Miharsi, D., Gamayuni, R. R., & Dharma, F. (2024). Analysis of the utilization of Altman Z-Score, Beneish M-Score, and F-Score model in detecting fraudulent of financial reporting: A literature review. *Journal of Management, Accounting, General Finance and International Economic Issues*, *3*(2), 353-364. https://doi.org/10.55047/marginal.v3i2.954

Mohanty, G., & Rai, G. (2022). The Hermeneutics of the concept of misrepresentation: Addressing the quagmire of damages and compensation in cases of misrepresentation in formation of a contract under Indian and english law. *Liverpool Law Review*, *43*(2), 477-500. https://doi.org/10.1007/s10991-022-09303-9

Narsa, N. P. D. R. H., Afifa, L. M. E., & Wardhaningrum, O. A. (2023). Fraud triangle and earnings management based on the modified M-score: A study on manufacturing company in Indonesia. *Heliyon*, *9*(2). https://doi.org/10.1016/j.heliyon.2023.e13649

Nuristya, E. R., & Ratmono, D. (2022). The Role of Audit Report Lag in Mediating the Effect of Auditor Switching and Financial Distress on Financial Statement Fraud. *Sriwijaya International Journal of Dynamic Economics and Business, 165-184*. https://doi.org/10.29259/sijdeb.v6i2.165-184

Nuryuliza, S., & Triyanto, D. N. (2022). Pengaruh Fraud Triangle terhadap Kecurangan Laporan Keuangan (Studi Empiris Pada Perusahaan Sektor Pertambangan yang Terdaftar di Bursa Efek Indonesia Periode 2015-2017). *E-Proceeding of Management*, *6*(2), 3157-3166.

Prakoso, D. B., & Setiyorini, W. (2021). Pengaruh Fraud Diamond Terhadap Indikasi Kecurangan Laporan Keuangan. *Jurnal Akuntansi Dan Perpajakan*, *7*(1), 48-61. https://doi.org/10.26905/ap.v7i1.5770

Puspitadewi, E., & Sormin, P. (2021). Pengaruh Fraud Diamond Dalam Mendeteksi Financial Statement Fraud. *Jurnal Akuntansi*, *12*(2), 146-162. https://doi.org/10.25170/jara.v12i2.86

Ramos Montesdeoca, M., Sanchez Medina, A. J., & Blazquez Santana, F. (2019). Research topics in accounting fraud in the 21st century: A state of the art. *Sustainability*, *11*(6), 1570. https://doi.org/10.3390/su11061570

Rashid, M. A., Al-Mamun, A., Roudaki, H., & Yasser, Q. R. (2022). An overview of corporate fraud and its prevention approach. *Australasian Accounting, Business and Finance Journal*, *16*(1). https://doi.org/10.14453/aabfj.v16i1.7

Rashid, C. A. (2022). The role of internal control in fraud prevention and detection. *Journal of Global Economics and Business*, *3*(8), 43-55. https://doi.org/10.31039/jgeb.v3i8.40

Sankar, B. B., & Bhanawat, H. (2024). Fraud detection in financial statement: A study using Beneish algorithm. *International Journal of Managerial and Financial Accounting*, *16*(4), 380-394. https://doi.org/10.1504/IJMFA.2024.141719

Setiawan, N., & Tarjo, H. (2022). B.(2022). *Asset Misappropriation Employee Fraud: A Case Study on an Automotive Company. Jurnal Ilmiah Akuntansi dan Bisnis*, *17*(2), 214-233. https://doi.org/10.24843/jiab.2022.v17.i02.p03

Tarjo, T., Anggono, A., & Sakti, E. (2021). Detecting indications of financial statement fraud: A hexagon fraud theory approach. *AKRUAL: Jurnal Akuntansi*, *13*(1), 119-131. https://doi.org/10.26740/jaj.v13n1.p119-131

Tekin, H., & Polat, A. Y. (2020). Agency theory: A review in finance. *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, *8*(4), 1323-1329. https://doi.org/10.18506/anemon.712351

Thomas, K. J. (2019). Rationalizing delinquency: Understanding the person-situation interaction through item response theory. *Journal of Research in Crime and Delinquency*, *56*(1), 3-41. https://doi.org/10.1177/0022427818789752

Velte, P. (2023). The link between corporate governance and corporate financial misconduct. *A review of archival studies and implications for future research. Management Review Quarterly*, *73*(1), 353-411. https://doi.org/10.1007/s11301-021-00244-7

Yulistyawati, N. K. A., Suardikha, I. M. S., & Sudana, I. P. (2019). The analysis of the factor that causes fraudulent financial reporting with fraud diamond. *Jurnal Akuntansi dan Auditing Indonesia, 1-10*. https://doi.org/10.20885/jaai.vol23.iss1.art1