ADDRESSING THE FACTORS CAUSING FINANCIAL STATEMENT FRAUD: A SYSTEMATIC LITERATURE REVIEW AND BIBLIOMETRIC ANALYSIS

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ABSTRACT

Fraud is often revealed through various media and employees are the ones who most often report it. Factors that influence fraud include pressure, opportunity, rationalization and the ability to commit fraud. This study aims to determine the factors that cause financial statement fraud and find out how to overcome financial statement fraud. This research method uses a systematic literature review of 30 journals that have been selected from scopus, then analyzed using VOSviewer_1.6.20 and explained descriptively. Financial statement fraud can be detected using the Beneish model, financial ratios, audit committees, and corporate indicators. The factors that cause it include pressure, opportunity, rationalization and ability. Based on the data that has been collected, the solution to prevent financial statement fraud is a violation reporting system, honest and ethical corporate culture, good corporate governance, effective internal control and risk management systems, and data analysis and technology. The Beneish model is able to identify manipulator and non manipulator companies. Preventing fraud in banking requires the principle of knowing the customer and anti-money laundering. Anti-fraud strategy should be aligned with organizational strategy with accountability to the board and all employees. Some foreign studies also show ways of prevention such as the intensity of regulatory supervision and auditor sanctions. Future research suggestions are expected that future researchers can conduct research directly in a company and can use this article as additional information in conducting research related to financial statement fraud.

KEYWORDS

Financial Statement Fraud, Prevention, Beneish Model, Corporate Culture, Internal Control System, Risk Management, Anti Fraud Strategy

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INTRODUCTION

Many crimes occur in various countries, including Indonesia. There are various types of crimes which focus more on economic crimes such as fraud, embezzlement and corruption. Fraud or cheating is an act that is not commendable where someone does this in order to benefit themselves. If there are opportunities and gaps in the company, fraud can occur. The intention or willingness to cheat such as lying, being dishonest, not telling the truth, gaining advantage over others is a characteristic of someone who cheats. ACFE International explains that there are 3 types of fraud from the most frequent, namely misuse of assets by 89%, corruption by 48% and rarely occurs in financial statement fraud by 5% (ACFE, 2024).

ACFE explains that fraud can be caught through various media, based on a 2024 survey, it is known that whistleblowers mostly report through web-based or online forms by 40%, electronic mail 37%, hotline telephone lines 30%, form letters sent by 11%, and various other media. In addition, when fraud occurs, whistleblowers can report through superiors, company executives, internal audit, fraud investigation teams, and others. (ACFE, 2024).

Financial statements are the process of business transactions recorded to form reports that can be used by internal and external users. If in the financial statements there are recording errors that are not due to human error, it is necessary to be aware. Whether the financial statements are presented fairly and in accordance with generally accepted accounting principles or not. Financial reports can also be used as a basis for an owner to make decisions in running his company. One of them is used to borrow business capital to the bank. From there the financial statements should be made reliably and free from material misstatement. If it is not properly presented, it can harm users of financial statements, it is also proven that losses from financial statements with a median of USD 766,000 per case. (ACFE, 2024). It needs to be suspected if there are signs of financial statement fraud. These signs are seen through various factors including the fraud diamond proposed by Wofle & Hermanson (2004) namely pressure, opportunity, rationalization and ability.

This pressure can be experienced by a manager who gets orders from his superiors to achieve a target that even exceeds his limits so that it can lead to fraud. Opportunities can arise if a company environment indicates that there is fraud due to weak internal control and lack of management supervision. (Suryani & Fajri, 2022). According to Skousen et al., (2008) in Fitri et al., (2019) that a person's attitude or character in justifying fraudulent practices against the actions taken is called rationalization. Meanwhile, the ability possessed by the perpetrators of fraud is used to take advantage of the company's weaknesses so that the crimes committed cannot be known by other parties (Wofle & Hermanson, 2019). (Wofle & Hermanson, 2004).

Pressure, opportunity, and rationalization factors have a significant effect on financial statement fraud, pressure with financial stability proxies has an effect on financial statement fraud ((Suryani & Fajri, 2022); (Yusrianti et al., 2020)). However, it is different that external pressure, personal financial needs, opportunities (effective supervision), rationalization with the proxy of RPT (related...
party transactions), DCHANGE (change in director), BID-ASK (information asymmetry) have no effect on financial statement fraud, company size and industry type do not trigger financial statement fraud. Yusrianti et al., (2020), Doan & Ta, (2023) in their research results in pressure (financial targets, debt pressure, personal financial difficulties), opportunities (weak SPI, related party transactions, accounting policies often change), rationalization (ethical standards and attitudes towards fraud) affect misstatements in financial statements.

There are various factors that are carried out by fraudsters. Other events such as frequent auditor changes, auditor opinions, financial statement anomalies, CEO duality, financial ratios, financial statement manipulation, several indicators and various other financial crimes are indications to determine the existence of financial statement fraud in the company. Of course, fraud can occur in various types of companies such as banking and financial services, manufacturing, mining, trading and so on. (ACFE, 2024). It can be seen from several empirical studies obtained using the object of companies listed on the stock exchange of each country such as in Indonesia by Suryani & Fajri (2022), Yusrianti et al. (2020), Handoko & Natasya (2019); in Romania by Safta (2021); in Greece by Pazarskis et al. (2017), and several other countries. Other research also comes from banks listed on the IDX by Indarto & Ghozali, (2016); in BUMN by Ait Novatiani et al. (2022), Sari et al. (2020)(2015), in medium-sized automotive companies by Abdul Aris et al. (2015), mining companies listed on the IDX by Sari et al. (2022), as well as non-financial companies listed on the IDX (Fitri et al., 2019).

This research is important because fraud can cause losses, the factors that cause fraud are still not fully understood and efforts to prevent and detect fraud still need to be strengthened, so it will add insight into how to overcome the factors that cause financial statement fraud using a systematic literature review of several previous studies and the contributions that will be made to future research which will be discussed in the next chapter.

Based on the background of the problem, it is a motivation for researchers to re-examine it in a systematic literature review, so the problem formulation can be proposed as follows:
1. What are the factors that lead to financial statement fraud?
2. How to solve financial statement fraud?

The research objectives are as follows:
1. To find out the factors that cause financial statement fraud
2. To know how to overcome financial statement fraud

**Theoretical Foundation**

**Financial Statement Fraud**

Financial statement fraud according to Wells (2015) is fraud committed by perpetrators who change financial data in financial statements so that they become inaccurate or misleading aimed at investors, creditors, and other users of financial statements. Financial statement fraud usually occurs due to falsification of financial records, deliberate material omissions, incorrect application of principles and deliberately omitted disclosures. Martins & Júnior (2020) also explains that financial reporting fraud, there is one of the most significant causes of the pressure
received by management to achieve its targets, where executives can manipulate financial records in financial reporting, hiding their true performance by maintaining their position, control and income reflected in bonuses, salaries, and equity. Financial statement fraud can also be an offender who understates costs by overstating revenues for his own benefit, with various measures of profitability. In addition, there is an opinion from (Indarto & Ghozali, 2016) which states that if the supervision carried out by the company’s board of commissioners is ineffective, then fraud can occur due to lack of supervision. In addition, the existence of the big four KAP can detect fraud better than other KAPs because it provides strict external supervision of the financial reporting process to avoid a bad reputation.

Financial statement fraud does not only occur in companies in general, but there are also those related to financial and banking sector companies. Fraud in banking is explained by Handoko & Natasya (2019) such as manipulation of income, assets, profits, liabilities and lack of information disclosure. Banking financial statement fraud can harm investors, creditors and other users of financial statements. Indarto & Ghozali (2016) also explained that the provision of credit using fake documents and guarantees with a loss of Rp. 3.6 billion; embezzlement of bank customer deposits and savings through forging signatures on withdrawal receipts and channeling funds to suspect accounts resulted in a loss of Rp. 18 billion so that financial statements can cause a decrease in financial integrity.

Fraud Diamond
Fraud diamond according to Wofle & Hermanson (2004) explains that there are 4 elements that influence a person to commit fraud, namely pressure, opportunity, rationalization and ability. Financial pressures usually include debt, low salaries, company losses, gambling habits, business competition, performance incentives, and so on, while non-financial pressures such as because someone is afraid of losing their job, feeling unappreciated, greedy, bored, feeling dissatisfied, and so on. Opportunity is a situation where the perpetrator can exploit system weaknesses in the company, several factors for someone to commit fraud, namely weaknesses in internal supervision, weaknesses in external supervision, suboptimal governance, closeness of clients to borrowers. Rationalization is something that is done by the perpetrator of fraud who feels that the confidence in himself is worth the resulting risk, for example the perpetrator already knows that borrowing office cash in such an amount and promising to return it, the risk is that the money is lost because it will not be returned by the perpetrator. Ability is the skill possessed by the perpetrator to act fraudulently because the perpetrator is also smart enough to understand the weaknesses in the company’s internal control and is able to commit fraud in real terms so that fraud will not be detected. In addition, the perpetrator also has the ability to force others to hide fraud, lie effectively and consistently, and can handle stress very well.

RESEARCH METHOD
This research is a systematic literature review and bibliometric research. Systematic literature review is a research design to systematically synthesize...
evidence of previous research, and synthesize results to answer research questions. The process starts from identifying the systematic review, stating what you want to review, searching for articles and then giving a brief search statement, then screening articles according to the research topic, and synthesizing the results of the research. (Perry & Hammond, 2002).

A systematic review was conducted by collecting articles from Scopus by searching within all fields, namely (financial AND fraud OR financial AND crime OR fraudulent AND statement OR financial AND statement AND fraud) resulting in 6,127 articles. Furthermore, filtering articles, namely research years from 2015 - 2024; subject areas selected in business, management and accounting and economics, econometrics, and finance; document types select article; source type select journal; language select English; and finally open access select all open access then select limit to it will change to 762 articles so that it shows the search history as follows:

\[
\text{ALL ( ( financial AND fraud OR financial AND crime OR fraudulent AND statement OR financial AND statement AND fraud ) AND ( LIMIT-TO ( SUBJAREA , "busi" ) OR LIMIT-TO ( SUBJAREA , "econ" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( LANGUAGE , "english" ) ) AND ( LIMIT-TO ( OA , "all" ) )
\]

Furthermore, conducting further searches according to the topic of the problem taken, then the articles are sorted by abstract so that only 30 articles will be analyzed. Based on the articles stored in the save list analyzed using the analyse search result shows the following chart:

![Image 1. Scopus processed data by year](http://eduvest.greenvest.co.id)
From the figure above shows that research is experiencing a decline from 2022 - 2024, and many researchers are conducting research in Indonesia. It is necessary to conduct further studies to find out the factors that cause financial fraud and find out solutions in overcoming it where previous research may be saturated and there is a need for novelty by looking at several keywords through systematic literature review and bibliometric analysis.

Bibliometric analysis using VOSviewer_1.6.20 based on co-occurrence by entering journal data that has been stored in scopus in the form of csv which is exported and then processed in VOSviewer with the following process:

1. Select creat, then click read data from bibliographic database files and then
2. Select the scopus option then enter the file, click okay, and next
3. Then in the type of analysis select Co-occurrence, unit of analysis select all keywords, and Counting method select full counting, click next.
4. Minimum number of occurrences of keywords which means the minimum number of keywords desired is 2 so type 2. After that click next, a sentence will appear "Off the 111 keywords, 18 meet the threshold" which means that out of 111 keywords, 18 keywords are found that meet the threshold, then click next and next again then click finish.
5. Click yes, then an image will appear that can be saved based on the link strength value or called total link strength. (Sidiq, 2019).

If the above steps have been carried out, 30 journals that have been collected from Scopus according to keywords can then be analyzed manually and explained descriptively.

**RESULT AND DISCUSSION**

Based on the results of VOSviewer, it appears that financial statement fraud is detected by the beneish model, financial ratio, corporate fraud, audit committee and several previous studies from other countries that are rarely discussed in
Indonesia. In this study, it will be discussed because it is related to the topic of this research.

Other factors that can lead to fraud include pressure with a proxy for changes in total assets. (Handoko & Natasya, 2019) The manufacturing industry is vulnerable to financial statement fraud, and 25 financial ratios divided into 5 groups have a significant effect on financial statement fraud, these groups are company size ratios, efficiency ratios, liquidity ratios, activity ratios, capital structure ratios (Pazariskis et al., 2017). (Pazariskis et al., 2017). Then in research Lokanan et al. (2019) shows 68.89% of companies have few anomalies because they comply with legal and ethical standards, 23.51% of companies do not have a rating of having significant anomalies indicating financial statement risk and the possibility of fraud. External pressure, financial stability, leverage, financial target capability, auditor opinion, auditor turnover quickly affect financial reporting fraud (Indarto & Ghozali (2016); Fitri et al. 2019); Sari et al. (2020); Nurcahyono et al. (2021)). Pressure, opportunity, rationalization affect misstatement in financial statements Doan & Ta (2023) The main motivations for fraud are personal and environmental factors; strengthening the internal control system is the internal control procedure. The main motivations for fraud are personal and environmental factors; strengthening the internal control system is the most important prevention and detection procedure; modern technology can minimize fraud; fraud has a negative impact on company revenue and reputation. (Yaqoub et al., 2023). It is stronger when companies do not report any internal control weaknesses (Liu et al., 2023). (Liu et al., 2023).

In predicting financial statement fraud, there are several financial ratios, namely the ratio of operating cash flow to current liabilities, the ratio of changes in receivables to operating cash flow, FCF (Free Cash Flow), DPO (Days Payable Outstanding), and the ratio of changes in inventory to operating cash flow. (Tarjo et al., 2023). Research results Yarana (2023) showed that 11.48% of the sample had a high probability of financial statement fraud. External pressure (ROA),
rationalization (accruals), and industry risk have a significant effect on financial statement fraud, eight independent variables (external pressure, financial stability, number of audit committees, number of audit committee meetings, industry characteristics, auditor turnover, proportion of independent commissioners, and institutional ownership ratio) and company size have no significant effect. Larger board size and institutional share ownership can reduce the likelihood of financial statement fraud. (Sadique et al., 2019).

Pressure with asset return proxy, opportunity (ratio of independent board of commissioners, composition of independent board of commissioners and frequency of board of commissioners meetings), rationalization (change of internal auditor), ability (change of board of directors), auditor change, CEO dualism, political relations do not significantly affect financial statement fraud. (Handoko & Natasya, 2019); (Sudarman et al., 2019); (Sari et al., 2022)). Further in (Sudarman et al., 2019) the quality of the external auditor strengthens the influence of the composition of the independent board of commissioners and the frequency of board meetings on fraudulent financial reporting. Financial targets, monitoring, and rationalization have no effect on financial reporting fraud. these results also show that the big four KAP has not proven to be able to overcome earnings management practices because companies want to show good financial performance in front of investors. (Indarto & Ghozali, 2016). This is also seen in research (Burca et al., 2022) that real earnings management activities have a negative impact on F scores in the long term, while the innate component of accruals has no significant impact on the likelihood of long-term financial reporting fraud. The likelihood of fraud decreases as the number of female directors on the board increases. There is a significant negative relationship between independent female directors with financial qualifications and fraud, whereas the relationship is not significant when independent female directors lack financial expertise. (Yami & Poletti-Hughes, 2022). The frequency of board meetings and longer board chair tenure may increase the likelihood of financial statement fraud (Sadique et al., 2022). (Sadique et al., 2019).

Although seen from the results of previous studies, it can be seen that there are factors that have an effect and those that have no effect, but still have to be aware of any possibilities that will occur to avoid fraud and the risks that will be caused. Therefore, several solutions are needed to overcome it.

According to Nurcahyono et al. (2021) To prevent fraud by creating a whistleblowing system, if the smaller the risk of loss experienced by the company due to the obligation to pay fines and lose assets due to fraud, the more warnings will enter the whistleblowing system. This system can be used for early detection of potential financial statement fraud. From the external party, there is an independent audit committee that independently oversees the agent projected to weaken the intrinsic motivation of senior managers and their attention to internal profits that can lead to financial statement irregularities. The audit committee functions to reduce the risk of financial statement fraud. Some research in Nurcahyono et al. 2021) also said that organizational culture can build ethical behavior which will influence management to implement good corporate governance so as to maximize shareholder profits. An honest and ethical corporate
culture can prevent financial statement fraud and reflect the character of the money organization as a guideline. The result given in preventing fraud is good corporate governance. Martins & Júnior (2020); Suryani & Fajri (2022); Ait Novatiani et al. (2022) by giving a proportion of shares to management, in addition to whistleblowing systems and audit committees as internal controls. Other solutions, which directly or indirectly reduce bankruptcy or earnings manipulation, board-related governance is more effective on bankruptcy prediction, audit is more effective on earnings manipulation. The effectiveness of the internal audit function, risk management has an effect on the prevention of financial reporting fraud affects the quality of financial reporting. Ait Novatiani et al. (2022) and can use artificial neural network analysis (Suryani & Fajri, 2022). Understanding the readability of annual reports can help understand all annual report data to detect indications of false financial statements.(Tarjo et al., 2022). Fraud and financial crime can be prevented by minimizing opportunities through creating a conducive work environment, creating a product service bonus sharing program, providing opportunities for employees to get rewards, implementing good operational supervision and control on an ongoing basis. (Shonhadji & Irwandi, 2024). Then in the leasing industry can be prevented through the method of self-organizing maps proved useful to develop a profile of fraudsters. Companies can utilize these results to monitor clients from specific industries or specific leasing objects. This method can be applied to own databases for similar purposes and implement fraud warning mechanisms. (Bach et al., 2020).

Beneish model according to some researchers Abdul Aris et al. (2015); Fitri et al., (2019); Holda (2020); Safta (2021) In detecting the world's most famous financial reporting fraud, namely the Beneish probit model, during 1982 - 1992 this model was based on financial data from 74 companies as manipulators, and 2,332 non-manipulator companies identified by the US Securities and Exchange Commission (SEC) when creating the model relied on measures that signaled future business effectiveness, related to cash flow, accrual differences, and characterized managers' motivation to manipulate data, Beneish's research (1997) in Holda (2020). Holda (2020) shows that the average value of individual indicators of more than 1.08 means that special attention should be paid, or called special attention areas. Based on previous research, it shows that the financial indicators of this model have a significant effect on financial statement fraud, this model is also able to identify 100% manipulators and successfully identify non manipulators, besides this model also finds that about 30% of the sample companies.

In order to avoid cases of fraud related to banking by knowing the principle of knowing the customer and anti-money laundering according to (Financial Services Authority)Bank Indonesia has issued provisions related to money laundering since 2001 regarding the application of the principle of knowing the customer, then in 2009 it changed to the terminology of customer due diligence. Increased opportunities for perpetrators to use bank products or services in their crimes along with the development of increasingly complex bank products, activities and information technology. Therefore, it is necessary for banks to play a greater role than before implementing an optimal and effective AML and CFT program, this application is important to eradicate money laundering and support
the implementation of prudential banking that can protect banks from various risks that may arise such as legal risk, reputation risk and operational risk. In realizing the program, Bank Indonesia actively and continuously coordinates with relevant agencies such as PPATK (Financial Transaction Reports and Analysis Center), KPK (Corruption Eradication Commission), Bapepam LK (Capital Market and Financial Institutions Supervisory Agency), and universities.

The anti-fraud strategy needs to be aligned with the organization’s strategy, the organization’s leaders are most responsible for fighting fraud, but the power and responsibility goes to the board of directors, audit committee, internal audit, internal controls, lower-level managers and all employees in the organization.

There are several studies that have never occurred in Indonesia where this research can be an addition to knowledge to find out other prevention in cracking down on fraud, including the results of these studies such as The intensity of regulatory supervision increases, regulators impose penalties on auditors based on the severity of the fraud. (Wang & Wang, 2022)

These solutions refer to preventing financial reporting fraud and manipulation by implementing whistleblowing systems, independent audit committees, honest and ethical organizational cultures, good corporate governance, effective control and monitoring, economic and social stability, moral persuasion, and political security and goodwill, as well as improving the effectiveness of internal audit functions, risk management, and using artificial neural network analysis for financial reporting fraud prevention. In addition, the studies conducted also show that the unique business of financial policing, traditional machine learning and deep learning approaches using corporate annual report data, and panel data analysis to understand the trend of financial fraud behavior. In this regard, an understanding of the readability of annual reports is also important to help detect indications of fraudulent financial statements. Therefore, companies should always be vigilant and continuously improve anti-fraud strategies, and place the responsibility of fighting fraud on all employees and organizational leaders.

CONCLUSION

Financial statement fraud can be detected through the beneish model, financial ratio, corporate fraud, audit committee. There are several factors that cause financial statement fraud, including the pressure of changes in total assets, the vulnerable manufacturing industry, and the effect of financial ratios on financial statement fraud. Most companies have few anomalies because they comply with legal and ethical standards, and have a risk of financial statement fraud. The risk of financial statement fraud can be minimized by strengthening internal controls, modern technology and reporting internal control weaknesses. Factors that affect financial statement fraud are external pressure, financial stability, leverage, financial targets, auditor performance, and auditor turnover. Pressure, opportunity, rationalization affect misstatements in financial statements. The main motivations for fraud are personal and environmental factors. Several financial ratios are used to predict financial statement fraud such as the ratio of operating cash flow to current liabilities, the ratio of changes in accounts receivable to operating cash flow,
FCF, DPO, and the ratio of changes in inventory to operating cash flow. External pressure (ROA), rationalization (accruals), and industry risk affect financial statement fraud. Pressure (return on assets), opportunity (ratio of independent board of commissioners, composition of independent board of commissioners, and frequency of board meetings), rationalization (change of internal auditor), ability (change of board of directors), auditor change, CEO dualism, political relations have no significant effect on financial statement fraud. The quality of the external auditor strengthens the influence of the composition of the independent board of commissioners and the frequency of board meetings on fraudulent financial reporting. Financial targets, monitoring, and rationalization have no effect. Large KAP has not been proven to overcome earnings management practices. Real earnings management has a negative impact on long-term F scores, but accruals have no significant effect on long-term financial statement fraud. The likelihood of fraud decreases with the increase of female directors with financial qualifications. The frequency of board meetings and longer board chair tenure may increase the likelihood of financial statement fraud. Greater board size, institutional shareholding can reduce the likelihood of financial statement fraud.

After knowing the factors that can cause financial statement fraud, a solution is needed to overcome it. Some ways to overcome this are the whistleblowing system by detecting potential fraud early if the risk of company losses due to fraud is getting smaller; independent audit committees are expected to weaken managers' motivation to act fraudulently; honest and ethical corporate culture; good corporate governance, and audit committees; effective internal audit and risk management; artificial neural network analysis. In addition, fraud prevention can be done through a conducive work environment, providing rewards, good operational supervision, and self-organizing maps.

In detecting fraud can use the Beneish model, the financial indicators of this model have a significant effect on financial statement fraud and the model can identify manipulator and non manipulator companies. In addition, in preventing banking fraud, it is necessary to know the principle of knowing the customer and anti-money laundering. Then the anti-fraud strategy needs to be aligned with the organization's strategy with responsibility given to the board of directors, audit committee, internal audit, and all employees. Some research abroad related to fraud prevention is the intensity of regulatory supervision and auditor sanctions according to the level of fraud. Future research suggestions are expected that future researchers can conduct research directly in a company and can use this article as additional information in conducting research related to financial statement fraud.

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