

FRAUDULENT FINANCIAL STATEMENTS IN PHARMACEUTICAL COMPANIES: FRAUD PENTAGON THEORY PERSPECTIVE

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ABSTRACT

A fraudulent financial statement is an issue that continues to be discussed as a form of deviation from corporate governance. Covid-19 pandemic has also demanded managements to uphold the company's performance to have good public image. Thus, the present study sets out to scrutinize the fraud pentagon theory on fraudulent financial statements. Each element is not able to be tested directly. However, there are proxies. The pressure element is providing as a personal financial need. The opportunity is becoming the industry's nature. Each of the quality of the external auditors as well as the turnover of board directors proposes rationalization and competence. The quantity of CEO's appearance in photos is a proxy of arrogance. The testing was carried out on the registered pharmaceutical companies of the Indonesian stock exchange in the span of the 2015-2019 periods. The samples were selected by the means of sampling technique which is purposive. Data are scrutinized by the means of panel data regression. The analysis results show that the characteristic of the industry positively affects financial reports which are fraudulent. Changing top management positions such as directors can be an indication of financial reports which are fraudulent. The personal financial need variables, the caliber of external auditors and the quantity of CEO's appearance in photos poses no effects on the fraudulent financial statements of the Indonesian's pharmaceutical companies.

Keywords: Fraud, Financial Statement, Business Ethics.

INTRODUCTION

The pandemic of COVID 19 causes a slowdown in various sectors of the economy (Hadiwardoyo, 2020). Seetharaman (2020) stated that the pandemic impacts caused widespread business stoppages and, a temporary decline in the aggregate supply of consumption and investment reduced demand for goods and services. These caused the company to take steps to maintain company's performance. High pressure in maintaining image and performance, has caused the company should do everything possible for them. One of the illegal ways that can be done is by manipulating the financial reports (Septriyani & Handayani, 2018).

Financial statement manipulation had occurred in several companies before the pandemic took place (Vivianita & Indudewi, 2019). This manipulation had even occurred in a sector that

was experiencing a surge in sales during a pandemic, namely the pharmaceutical industry. The pharmaceutical company that was proven to have manipulated financial statements was PT Kimia Farma in 2002. The manipulation occurred in some units; namely, the raw material industry that experienced Rp 2.7 billion worth of overstated sales, there was also Rp 23.9 billion worth of overstated inventory in the central logistics unit, Rp 8.1 billion worth of overstated inventory and Rp 10.7 billion worth of overstated sale in the pharmaceutical wholesaler unit (Pasaribu & Kharisma, 2018). These cases also proved that the pharmaceutical industry was an industry that was prone to manipulation, especially in the supply sector.

Previous studies on the fraud pentagon theory were conducted on several types of companies in Indonesia, such as manufacturing companies (Setiawati & Baningrum, 2018), food and beverage sub-sector (Triyanto, 2019) and the banking industry (Hidayah & Saptarini, 2019; Saputra & Kesumaningrum, 2017). This research fills the research gap by testing it in the pharmaceutical industry in Indonesia. Since there has been no similar research examining the fraud pentagon theory, this study was held in the pharmaceutical industry in Indonesia. Another reason for choosing the pharmaceutical industry is because this industry has experienced an increase in sales during a pandemic and has become a business that tends to be profitable.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Beasley (1996) argues that when the executives in the company show great financial interest in the institution's welfare, then the company's financial performance will influence their personal financial situations. Good company's performance will be beneficial for the personal financial needs of the executives, especially those who own shares in the company. However, when the company's performance is bad, the personal financial needs of these executives will be adversely affected. With an attitude towards what is owned, where executives want to ensure that their financial condition is good, it is within the interest of the company executives to ensure that the company's performance will remain good by not taking actions that can harm it, one of which indicates a fraud.

Kusumaningsih & Wirajaya, (2017); Yusof & Simon (2015) states that the executive will tend to take action to maintain his financial condition. Thus, personal financial need is thought to trigger indications of fraud. Aprilia (2017) found that the pressure experienced by company executives was able to influence the chances of fraud. Kusumaningsih & Wirajaya (2017) revealed that financial personal need has negative effects on fraud. The research is in line with Kusumaningrum & Murtanto (2016) who found that insider stock ownership negatively affects the detection of financial reports which are fraudulent. As such, the first hypothesis is prepared, namely, the better the personal financial welfare or shared ownership of insiders, the lower the occurrence of financial reports which are fraudulent.

H₁ Personal financial need has negative effects on indications of financial reports which are fraudulent.

There exist particular accounts whose balance is governed by the company contingent on an approximation, for instance, accounts receivable as well as obsolete inventory (Suparmini et al., 2020). Sihombing & Rahardjo (2014) explained that there is an element of subjectivity in determining the worth of the accounts in the financial statements which results in management

being able to use the accounts as a way to manipulate financial reports. Accrual discretion requires strict internal control or supervision of the company (Sunardi & Amin, 2018). Weak controls will provide a great opportunity for fraud to occur (Cressey, 1953; Wicaksono, 2015). Inventory conditions are a manifestation of the characteristics of the industry which could be answered to by various feedbacks which the company managers provided (Ariyanto et al., 2020).

The characteristic of the industry is defined as the ideal condition for a company operating in the line business (Septriyani & Handayani, 2018; Sunardi & Amin, 2018). The situation of the company's inventory is an aspect in the characteristics of the industry. A good company tends to restrain and reduce the company's inventory while raising the company's cash flow receipts (Skousen et al., 2009). Skousen et al. (2009) measure the characteristics of the industry by the means of the ratio of changes in total inventories as well as in total accounts receivable. Previous research carried out by Putriasih (2016) also revealed how the industry's characteristics positively influence the detection of financial reports which are fraudulent. Hence, the second hypothesis can be formulated, namely the higher the characteristics of the industry or the perfect condition of a company operate in the industry, the lower the occurrence of financial reports which are fraudulent.

H₁ The nature of industry positively affects the indications of fraudulent financial statement.

Chen et al. (2005) stated that companies whose audit completed by a reputable public accounting firms are less likely to commit fraud before the IPO process when juxtaposed with institutions whose audit carried out by Big 4 public accounting firms. This shows that choosing a public accounting firm belonging to the Big 4 is a barrier for companies to cheating (Suparmini et al., 2020).

Chen (2016) in his research showed that the Big 4 auditing firms reduce the incidence of financial scandals in foreign companies. Weiner (2012) stated that the size of the auditor's company indicates credibility and is followed by the disclosure of corporate fraud. Likewise expressed by Fimanaya & Syafruddin (2014); Noor et al. (2015) that the size of the auditing firms has affected the possibility of manipulation of the financial statements. Provided the explanation above, the third hypothesis of this study can be drawn up, namely, the better the caliber of the independent auditors, the smaller the occurrence of financial reports which are fraudulent.

H₃ The quality of independent auditors negatively affects the indications fraudulent financial statement.

Altering the makeup of the board of directors is intended to improve corporate governance for the better (Annisya et al., 2016). Suparmini et al. (2020) stated that changing top management positions such as directors could be seen as an effort to remove directing officials who were deemed to have knowledge of the fraud perpetrated by the institution. Thus, the change of directors was deemed to demand time to adapt so that initial performance was not optimal.

Manurung & Hardika (2015) use the change of directors as variable to determine the potential for financial statement fraud. They managed to prove that altering the makeup of the board of directors significantly and positively affects the potential for financial reports which are fraudulent. This research is supported by Nurbaiti & Hanafi (2017) stated that changing top

management poses a notable effect on accounting irregularities. Thus, the fourth hypothesis for this study can be formulated as follows, the more frequent top management positions such as directors change, the higher the occurrence of financial reports which are fraudulent becomes.

H₄ Changing the directors positively affects the indications of financial reports which are fraudulent.

Fraud can also be preceded by strong arrogance because a CEO's feeling of superiority may lead them to feel that they are immune to any internal controls due to their status and position. One measure of arrogance can be seen from the frequency with which CEO photos appear in company annual reports (Buchholz et al., 2019). If a CEO has enough photos in the company's yearly statement, the CEO is considered to have a desire to be known by the wider community (Yusof & Simon, 2015).

This is assessed as the presence of arrogance in the CEO (Yusof & Simon, 2015). This agrees with a study carried out by Bawakes et al. (2018); Setiawati & Baningrum (2018) which show fraudulent financial reports are significantly affected by how often the images of the CEO appear. This is because the amount of the CEO's photos shown in the yearly reports of an institution can suggest how arrogant and superior, they may be perceived. However, this is not supported by research by Vivianita & Indudewi (2019) which indicate that how often the CEO's images appear bears no effects on the reporting of financial reports which are fraudulent. The frequency of appearance of the CEO image is used to measure arrogance which is included in the fraud pentagon element.

H₅ The number of photos of the CEO positively affects the indications of financial reports which are fraudulent.

RESEARCH METHODS

The present research was carried out on pharmaceutical companies registered on the Indonesia Stock Exchange during the span of 2015–2019 by accessing the official website of Indonesia's stock exchange (IDX), namely www.idx.co.id. The yearly report of these pharmaceutical institutions during the aforementioned period serves as the object of study in the present research. This effort focuses on information related to financial reports which are fraudulent, personal financial needs, characteristics of the industry, independent auditor's qualifications, changing of top management positions such as directors and displays of CEO photos.

All pharmaceutical institutions registered on the IDX serve as the population in the present study. The sample used is a pharmaceutical company registered on the IDX selected through a technique of sampling which is purposive, with the criteria of publishing consecutive reports during the 2015-2019 periods and not delisting during the 2015-2019 periods. Based on documentary observations, there are 10 pharmaceutical institutions registered on the Indonesia Stock Exchange (IDX) with two companies that did not issue reports consecutively, namely PT Phapros Tbk and PT Merck Sharp Dohme Pharma Tbk. There were as many as 8 companies which could be sampled with 5 years of observation. Thus, 40 samples were obtained.

Examining financial reports which are fraudulent in the present study involves using the fraud score model put forward by Dechow et al. (2012). Skousen et al. (2009) explained that

“the F-score model is the sum of two variables, i.e., the accrual quality and financial performance”. The data analysis techniques were panel data regression analysis.

RESULTS AND DISCUSSION

The assumption test is carried out only on the multicollinearity assumption because there is more than one independent variable and the heteroscedasticity test (Ratnasari & Solikhah, 2019). The matrix correlation for independent variables showed an absent of high correlation value between independent variables which is not more than 0.80. This means the data is free from multicollinearity. The outcomes of the heteroscedasticity test indicate the significant value of the personal financial needs variable, the industry’s nature, the caliber of the independent auditors, and the change of directors and, the number of displays of CEO’s photos on the absolute residual variable is above 0.05. Thus, this suggests that the data analyzed in the present study do not suffer from a heteroscedasticity problem.

Having passed the classical assumption test, it is followed by testing the research hypothesis. The present study uses the analysis techniques of panel data regression to test all hypotheses. Selection of the right model for testing the hypothesis is carried out by using the Chow test, Hausman test and, Lagrange Multiplier test. Chow test results show a probability value greater than 0.05. The appropriate model based on the Chow test results is the Common Effect Model. Moreover, the Hausman test results reveal that the probability value is greater than 0.05. The appropriate model to use based on the Hausman test is the Random Effect Model. Lagrange multiplier test results points to a probability value greater than 0.05. As such, the appropriate model to use based on the Lagrange multiplier test is the Common Effect Model. Provided the three model tests, the results of the Chow test and the Lagrange multiplier test show the most appropriate Common Effect Model. Thus, the model used to test the Common Effect Model (CEM) hypothesis (Table 1).

| Table 1 HYPOTHESIS TESTING RESULTS WITH THE COMMON EFFECT MODEL | | | | |
|--|-------------------|-----------|-------------------|-------------------|
| Independent Variable | Coefficient Value | | T-Statistic value | Probability Value |
| Constant | α | 0.039224 | | |
| Personal Financial Need (X_1) | β_1 | -0.150234 | -0.455520 | 0.6516 |
| Nature Of Industry (X_2) | β_2 | 0.387061 | 2.124993 | 0.0409** |
| External Auditor Quality (X_3) | β_3 | -0.018519 | -0.313438 | 0.7559 |
| Change of Directors (X_4) | β_4 | 0.198099 | 3.255912 | 0.0026*** |
| Number of CEO Photo Appearance (X_5) | β_5 | -0.030365 | -1.282349 | 0.2084 |
| Adjusted R-squared | | | 0.309391 | |
| F-statistic | | | 4.494384 | |
| Prob(F-statistic) | | | 0.002987 | |

Information: *** indicates significant at the level $\alpha = 1\%$ ** indicates significant at the level $\alpha = 5\%$ * indicates significant at the level $\alpha = 10\%$

The size of the proportion of shares in pharmaceutical companies owned by insiders does not have an impact on fraudulent financial reports. These results disagree with the hypothesis stating that personal financial needs negatively affect financial reports which are fraudulent. The

analysis result shows that fraudulent financial statements are positively affected by the nature of the industry. The size of the auditor company, regardless from Big 4 audit companies or not, had no effects on the fraudulent practice on financial reports. The fourth hypothesis (H4) in the present study states that changing directors pose negative effects on financial reports which are fraudulent. The direction of the regression coefficient is positive at 0.198099, which means that the change of directors increases fraudulent financial statements at pharmaceutical companies. The results of the present study are contingent on the theoretical platform used, namely the fraud pentagon theory. This result rejects the sound hypothesis which states that the appearance of the CEO's photo positively affects financial reports which are fraudulent.

The control function over financial statements that should be carried out by shareholder management cannot always be increased through the large number of share ownership by insiders (Suparmini et al., 2020). Management of non-shareholders will certainly have different profit projections because their financial conditions are not influenced by the company's financial state, insider ownership of shares cannot always reduce fraudulent financial reports.

The findings of the present study are consistent with the research carried out Wahyuningrum & Iswajuni (2020); Nurbaiti & Hanafi (2017) which argue that personal financial need affects financial reports which are fraudulent. Despite this, the findings from the present study disagree with the study carried out by Kusumaningsih & Wirajaya (2017); Kusumaningrum & Murtanto (2016) which argue that personal financial needs negatively affect and reduces the occurrence of fraud, as well as with the study by Skousen et al. (2009); Yusof & Simon (2015) which contend that personal financial needs can affect fraud provided that the condition of company's financial is also affected by the financial state of its executives.

The findings of the present study also bear resemblance with the findings of a study carried out by Kusumaningrum & Murtanto (2016); Suparmini et al. (2020) which contend that the characteristics of the industry poses effects on fraudulent financial statements. Sihombing & Rahardjo (2014) contend that due to subjective judgments in measuring the value of certain accounts, management reserves the power use the account as a way to exploit financial reports and, to reduce this, tight control or supervision from the internal company is needed. Weak controls will provide a great opportunity for fraud to occur (Ariyanto et al., 2020; Donelson et al., 2017).

According to Marks (2012), the Big 4 public accounting firm maintains the true reputation by providing quality audits to increase public trust. Public trust can be increased through the principles contained in the implementation of corporate governance, namely through increased transparency, accountability, responsibility, independence and, corporate equality. The results of research that do not support this theory most likely occur because there are factors that influence audit quality more than the public accounting firm size factor. A public accounting firm with a large size but does not have a highly competent auditor is not able to detect fraud properly, as well as auditors who lack independence, the auditor will not be able to provide good audit results (Suparmini et al., 2020). Pham et al., (2017) found that auditing quality of small public accounting firms tends to be better than large public accounting firms in Vietnam.

The findings of the present study show inconsistency with the study carried out by Weiner (2012). Weiner stated that the auditor firm size indicates credibility. Thus, it is followed by a disclosure of corporate fraud. This research also disagrees with the study carried out by Fimanaya & Syafruddin (2014); Huang et al., (2017). Fimanaya and Syafruddin contend that

institutions whose audit was performed by any of the Big 4 firms tend not to commit fraud compared to those whose audit was performed by any non-Big 4 firms.

Wolfe & Hermanson (2004) found that changing top management positions such as directors may indicate fraud. Making changes in the makeup of the directors is seen as a company's effort to remove directors who are viewed as being aware of fraudulent practices in the company. It is considered that the changing of directors will require some time for adaptation so that the initial performance is not optimal. Besides, the change of directors was often successful because the new directors could use their position to drive the company further and avoid fraud. When going to change the board of directors, the company should select the best possible candidates by judging from the performance in the previous position and their objectives to advance the company (Suparmini et al., 2020).

The findings of the present study are consistent with the study carried out by Manurung & Hardika (2015) which contend that the use of the change of director's variable to determine the potential for financial statement fraud proves that it has a significant positive effect on the potential for financial statement fraud. The results of this study, however, are not in line with the results of research done by Annisya et al., (2016); Suparmini et al. (2020); Zaki (2017) which argue that changes in the makeup of the directors bear no effects on the detection of potential fraudulent financial statements.

Another purpose of having a CEO photo displayed in the yearly report is to introduce the company's leader. The other photos displayed are mostly photos of the company's activities. Besides, there is still some companies put only one photo of their CEO in their annual report. Therefore, the number of CEO photos cannot indicate an arrogant attitude and the general nature of the CEO of a company. These findings are consistent with the study by Bawakes et al. (2018) which contend that the frequent number of CEO's images or photos bears no effects on financial reports which are fraudulent.

CONCLUSIONS AND RECOMMENDATIONS

Given the results of the analysis, it can be summarized that personal financial needs, the quality of the independent auditors and the display of the CEO's photo have no effects on the occurrence of fraudulent financial statements. The present study also proves that the characteristics of the industry positively affect the occurrence of financial reports which are fraudulent. This shows that the higher the nature of the industry or the ideal condition of a company in the industry, the more likely it is that financial statement fraud will occur. Meanwhile, the change in the board of directors also positively affects the phenomenon of fraudulent financial statements. This shows that the change of directors at the pharmaceutical companies in the sample indicated that there was fraud in the financial statements.

This study offers implications for all shareholders, government, and other parties who need information as a consideration when assessing the opportunity for indications of financial reports which are fraudulent in the company by considering the factors that influence it. The results of this study can also have implications for the company and the management in making disclosures in the company's financial statements. By making disclosures, especially regarding to the nature of the industry or ideal conditions and the change in the board of directors in a company, shareholders and other stakeholders, including regulators, can assess the extent to which risks can be managed in the company so as not to cause fraud that is detrimental to many

parties. Further research is suggested to use the scope of other sectors, such as the mining sectors, the financial sectors, the banking sectors, and others. For further researchers, other proxies can be used from research variables which are the factors that influence the indications of financial statement fraud in a company.

REFERENCES

- Annisya, M., Lindrianasari, L., & Asmaranti, Y. (2016). Financial report fraud detection using diamond fraud. *Journal of Business and Economics (JBE)*, 23(1), 1-9.
- Aprilia, A. (2017). Analysis of the influence of pentagon fraud on financial reporting fraud using the beneish model on companies implementing the asean corporate governance scorecard. *Journal of Assets (Research Accounting)*, 9(1), 52–59.
- Ariyanto, D., Firdaus, G.M., Sari, M.M.R., Dewi, A.A., & Jhuniantara, I. (2020). How self control and situational pressure influence the tendency to receive gratification: An experimental study. *International Journal of Criminology and Sociology*, 9(1), 400–414.
- Bawakes, H.F., Simanjuntak, A.M., & Daat, S.C. (2018). Testing the pentagon's fraud theory against fraudulent financial reporting. *Journal of Regional Accounting & Finance*, 13(1), 114–134.
- Beasley, M.S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *Accounting Review*.
- Buchholz, F., Jaeschke, R., Lopatta, K., & Maas, K. (2015). Article information: The use of optimistic tone by narcissistic CEOs. *Accounting, Auditing & Accountability Journal*, 31(2), 531–562.
- Buchholz, F., Lopatta, K., & Maas, K. (2019). The deliberate engagement of narcissistic CEOs in earnings management. *Journal of Business Ethics*.
- Chen, K.Y., Lin, K.L., & Zhou, J. (2005). Audit quality and earnings management for Taiwan IPO firms. *Managerial Auditing Journal*, 20(1), 86–104.
- Chen, L. (2016). Local institutions, audit quality, and corporate scandals of us-listed foreign firms. *Journal of Business Ethics*, 133(2), 351–373.
- Cressey, D. (1953). *Other people's money: A study in the social psychology of embezzlement*. Free Press.
- Dechow, P.M., Hutton, A.P., Kim, J.H., & Sloan, R.G. (2012). Detecting earnings management: A new approach. *Journal of Accounting Research*, 50(2), 275–334.
- Donelson, D.C., Ege, M.S., & McInnis, J.M. (2017). Internal control weaknesses and financial reporting fraud. *Auditing*, 36(1), 45–69.
- Fimanaya, F., & Syafruddin, M. (2014). Analysis of factors affecting financial statement fraud (empirical study on non-financial companies listed on the Indonesian stock exchange in 2008-2011). *Diponegoro Journal Of Accounting*, 3(99), 397–407.
- Hadiwardoyo, W. (2020). National economic losses due to the covid-19 pandemic. *Baskara Journal of Business and Entrepreneurship*, 2(2), 83–92.
- Hidayah, E., & Saptarini, G.D. (2019). Pentagon fraud analysis in detecting potential financial statement fraud of banking companies in Indonesia. *International Conference on Accounting, Business, & Economics*, 20(1), 89–102.
- Huang, S.Y., Lin, C.C., Chiu, A.A., & Yen, D.C. (2017). Fraud detection using fraud triangle risk factors. *Information Systems Frontiers*, 19(6), 1343–1356.
- Kusumaningrum, A.W., & Murtanto. (2016). Analysis of the influence of diamond fraud in detecting financial report fraud. *Journal of Accounting and Business*, 2(2), 412–422.
- Kusumaningsih, K.U., & Wirajaya, I.G.A. (2017). Factors Affecting Fraud In Banking Companies. *E-Journal of Accounting*, 19(3), 1832–1860.
- Manurung, D.T.H., & Hardika, A.L. (2015). Analysis of factors that influence financial statement fraud in the perspective fraud diamond: Empirical study on banking companies listed on the Indonesia stock exchange year 2012 to 2014. *International Conference on Accounting Studies (ICAS)*.
- Marks, J. (2012). The mind behind the fraudsters crime: Key behavioral and environmental elements. *Crowe Horwath LLP*.
- Noor, N.F.M., Sanusia, Z.M., Heang, L.T., Iskandar, T.M., & Isa, Y.M. (2015). Fraud motives and opportunities factors on earnings manipulations. *Procedia Economics and Finance*, 15(1), 91-96

- Nurbaiti, Z., & Hanafi, R. (2017). Analysis of the influence of diamond fraud in detecting the level of accounting irregularities. *Indonesian Journal of Accounting*, 6(2), 167–184.
- Pasaribu, R.B.F., & Kharisma, A. (2018). Financial reporting fraud in fraud triangle perspective. *Journal of Financial Accounting Research*, 14(1), 53–65.
- Pham, N.K., Duong, H.N., Pham, T.Q., & Ho, N.T.T. (2017). Audit firm size, audit fee, audit reputation and audit quality: The case of listed companies in Vietnam. *Asian Journal of Finance & Accounting*, 9(1), 429-439
- Putriasih, K. (2016). Diamond fraud analysis in detecting financial statement fraud: An empirical study on manufacturing companies listed on the Indonesian stock exchange (BEI) in 2013-2015. *E-JournalSI Ak Ganesha University of Education*, 6(3), 1-9.
- Ratnasari, E., & Solikhah, B. (2019). Analysis of fraudulent financial statement: The Fraud pentagon theory approach. *Gorontalo Accounting Journal*, 2(2), 98–112.
- Saputra, A.R., & Kesumaningrum, N.D. (2017). Analysis of factors affecting fraudulent financial reporting from the perspective of pentagon fraud in banking companies listed on the Indonesian stock exchange year 2011-2015. *Journal of Accounting and Finance*, 22(2), 121–134.
- Seetharaman, P. (2020). Business models shifts: Impact of Covid-19. *International Journal of Information Management*, 54(2), 1–4.
- Septriyani, Y., & Handayani, D. (2018). Detecting financial reporting fraud with pentagon fraud analysis. *Journal of Accounting, Finance and Business*, 11(1), 11–23.
- Setiawati, E., & Baningrum, R.M. (2018). Detection of fraudulent financial reporting using pentagon fraud analysis: A case study of manufacturing companies listed in bei 2014-2016. *Indonesian Accounting and Finance Research*, 3(2), 91–106.
- Sihombing, K.S., & Rahardjo, S.N. (2014). Diamond fraud analysis in detecting financial statement fraud: an empirical study on manufacturing companies listed on the Indonesian stock exchange (IDX) in 2010-2012. *Diponegoro Journal Of Accounting*, 3(02), 1–12.
- Skousen, C.J., Smith, K.R., & Wright, C.J. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. *Advances in Financial Economics*, 13(1), 53–81.
- Sunardi, S., & Amin, M.N. (2018). Fraud detection of financial statement by using fraud diamond perspective. *International Journal of Development and Sustainability*, 7(2), 878–891.
- Suparmini, N.K., Ariyanto, D., & Wistawan, I.M.A. P. (2020). Diamond theory fraud testing on financial statement fraud indications In Indonesia. *E-Journal of Accounting*, 30(6), 1441–1457.
- Triyanto, D.N. (2019). Fraudulence financial statements analysis using pentagon fraud approach. *Journal of Accounting Auditing and Business*, 2(2), 26-39.
- Vivianita, A., & Indudewi, D. (2019). Financial statement fraud in mining companies affected by fraud pentagon theory. *Journal of Socio -Cultural Dynamics*, 20(1), 12–29.
- Wahyuningrum, L., & Iswajuni. (2020). The factors affecting fraudulent financial reporting in the fraud triangle perspective. *International Journal of Innovation, Creativity and Change*, 11(9), 314–328.
- Weiner, J. (2012). *Auditor size vs. audit quality: An analysis of auditor switches*.
- Wicaksono, K.W. (2015). Public sector organizational accountability. *Journal of Public Policy and Administration*, 19(1), 17–26.
- Wolfe, D.T., & Hermanson, D.R. (2004). The fraud diamond : Considering the four elements of fraud. *CPA Journal*, 74(12), 38–42.
- Yusof, K., & Simon, J. (2015). Fraudulent financial reporting: An application of fraud models to Malaysian public listed companies. *The Macrotheme Review*, 4(3), 126–145.
- Zaki, N.M. (2017). The appropriateness of fraud triangle and diamond models in assessing the likelihood of fraudulent financial statements-an empirical study on firms listed in the Egyptian stock exchange. *International Journal of Social Science and Economic Research*, 2(2), 2403–2433.