

Whistleblowing Financial Fraud: Integration Model of Hexagon Fraud and Theory of Planned Behavior

Dabella Yunia, Siti Mutmainah

Faculty of Economics and Business Diponegoro University, Semarang, 50275, Indonesia

Article info

Keywords:
Hexagon fraud, Theory of planned behavior, and Whistleblowing intension

ISSN (print): 2598-7763
ISSN (online): 2598-7771

✉ Corresponding Author:
Name: Dabella Yunia
E-mail:
dabellayunia@gmail.com

Abstract

This research aimed to test the determinants of whistleblowing intention using an integrated method to hexagon fraud elements and the theory of planned behavior (TPB). The elements of hexagon fraud in the form of ego, capability, and opportunity were perceived behavior control, while hexagon fraud in the form of incentives and collusion were subjective norm. An attitude toward whistleblowing was part of rationalization since certain actions are justified by an individual. Data collection was conducted through a survey of 219 respondents and processed using the Partial Least Square (PLS) version 3 statistical tool and quantitative method. The result showed that ego, capability, and opportunity integrated into perceived behavior control positively affected whistleblowing intention. In addition, incentives and collusion integrated into subjective norm as well as attitude toward behavior positively affected the variable. Hexagon fraud integration model and TPB were suitable for use in whistleblowing intention. From a practical perspective, this research contributed to organizations implementing whistleblowing by considering perceived behavior control, subjective norm, and attitude.

Citation: Yunia, D., Mutmainah, S., (2024). Whistleblowing Financial Fraud: Integration Model of Hexagon Fraud and Theory of Planned Behavior . AFRE Accounting and Financial Review, 7(2): 258-267

JEL Classification: M41, M42, K42
DOI: <https://doi.org/10.26905/afr.v7i2.12878>

1. Introduction

The 2020 Financial Crime Survey by PricewaterhouseCoopers reported that 47% of companies experienced financial statement fraud in the last 24 months with losses amounting to \$42 billion (PricewaterhouseCoopers, 2020). According to the Association of Certified Fraud Examiners (ACFE) (ACFE Asia-Pacific Edition, 2022), approximately 5% of total organizational revenue was lost annually. Several research have also emphasized the impact of the activities on businesses and the global economy (Andoh et al., 2018; Asmah et al., 2020; Gullkvist & Jokipii, 2013; Zahari et al., 2020). In addition, ACFE (ACFE, 2022) stated that Indonesia ranked 4th highest in financial statement fraud cases, with 23 reported in 2021.

Whistleblowing exposes fraud, prevents future occurrences, as well as maintains an organization's integrity and public trust. Brown et al. (2016); Albrecht et al. (2018); Heese & Pérez-

Cavazos (2021); Khan et al. (2022) stated that the concept was an effective method to prevent fraud. An accountant named Sherron Watkins exposed financial fraud by the energy company Enron (Fraud Magazine, 2007). In this context, significant losses were hidden and financial statements were manipulated to increase profit. The revelation led to Enron's bankruptcy and caused substantial losses for investors and employees in 2001.

Whistleblowing is the disclosure of wrong doing seen as an act of reason driven by the desire to expose violations and create positive change. The concept may be motivated by a sense of moral responsibility or a desire for justice. Additionally, it includes the courage to take risks against safety or reputation to do what is right. Whistleblowing is also perceived as betrayal, driven by unconscious desires for revenge or the need for attention and recognition. In some cases, whistleblowers may feel marginalized or unfairly treated within an organization. These conditions are con-

sistent with Dungan et al. (2015); Dungan et al. (2019); Heese & Pérez-Cavazos (2021) stating that the concept was a double-edged sword.

Fraud reporting is a tool for maintaining an effective control environment. The accounting profession and legislation strive to make the concept a corner stone of organizational culture (Lee & Fargher, 2013; Alleyne et al., 2013; Mastiniwati et al., 2020). The professions of public accountants, as well as external and internal auditors, can prevent and detect fraud within an organization. Internal auditors assess the effectiveness of controls over financial reporting conducted by management. Meanwhile, public accountants and external auditors attest to the assessments and both professions are supported by the Sarbanes-Oxley Act. Previous research reported that Indonesia had no specific regulations or laws governing financial fraud. In this context, whistleblowers do not receive legal, economic, or social protection. This was evident in Indosurya, which was the largest financial crime case in the country, with losses amounting to IDR 106 trillion and 23,000 victims (CNBC Indonesia, 2023). The case was disclosed to the authorities after customers reported the inability to withdraw funds. However, the court ruled that Indosurya was free from all charges, and the customers who reported the case were imprisoned based on a counter-report. The case is an example of a company retaliating against whistleblowers.

Accountants are expected to detect financial fraud as well as uphold independence, professionalism, and code of ethics. Meanwhile, public trust in the profession increases, providing positive career effects. In developed countries such as the United States, the Dodd-Frank Act is in effect and incentives are provided for individuals who become whistleblowers. The consequences faced by accountants include legal action and the threat of losing clients. Individuals or groups aware of financial fraud often have reservations about submitting a report, hence preferring to remain silent. The silence shows an endorsement of financial fraud occurring. In this context, the questions relating to the cause of whistleblowing intention are considered.

The role of whistleblowers in exposing fraud depends on the intention. Latan et al. (2019) examined the effect of the triangle on whistleblowing intention among professional accountants. Similarly, Latan (2020) investigated diamond whistleblowing as a predictor of online intention using customer samples. Christian et al. (2019);

Sarikhani (2021); Fadhillah et al. (2022); and Putra & Kusnoegroho (2021) researched the concept based on Pentagon fraud and the extended theory of planned behavior (TPB). The four elements of whistleblowing include (1) the whistleblower, (2) the report or complaint about wrongdoing, (3) the organization or individual committing the wrongdoing, and (4) the party receiving the complaint about the violation (Dungan et al., 2015). Previous research has undermined the element of collusion in analyzing whistleblowing intention. Collusion is only considered a crime when the actions planned by the partners constitute a criminal act, thereby forming a conspiracy (Crook & Nixon, 2019). In this research, hexagon fraud includes collusion elements used to build on previous investigations (Latan, 2019; Latan 2020; Sarikhani 2021). Whistleblowing literature is expanded by integrating hexagon fraud and the TPB. Therefore, this research aims to test the elements of hexagon fraud using TPB. The elements of the concept, such as ego, capability, and opportunity, constitute perceived behavior control, while incentives and collusion form subjective norm.

2. Hypothesis Development

Hexagon Fraud

Fraud theory originated with a triangle where fraud occurs due to pressure, opportunity, and rationalization (Jacobs & Cressey, 1954; Sujeewa et al., 2018; Larum et al., 2021; Aripin et al., 2022; Aripin et al., 2022; and Cheliatsidou et al., 2023). Wolfe & Hermanson (2004) argued that these 3 factors were not sufficient for committing fraud. In addition, the perpetrator should have the capacity to commit fraud (Wolfe & Hermanson, 2004). Crowe (2011) expanded on the triangle by adding elements of competence and arrogance. This results in fraud pentagon, which consists of opportunity, pressure, rationalization, competence, and arrogance. Vousinas (2019) reported that the elements were insufficient when carried out by only an individual, hence requiring collaboration with others, known as collusion. Hexagon model was also introduced, where fraud was driven by 6 factors namely stimulus, capability, opportunity, rationalization, ego, and collusion.

Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) extends the theory of reasoned action, where the occurrence is from an intention (Sheppard et al., 1988). In this context, intention is the manifestation of

subjective norm and attitude toward the action. Subjective norm is perceptions sourced externally to the individual, while attitude is the belief about behavior related to a specific action. According to Ajzen (1991), individual intentions are not affected by subjective norm and attitude but perceived behavior control developed into TPB.

Whistleblowing

Whistleblowing is crucial for a group, organization, or society to promote and uphold moral standards (Anvari et al., 2019). The mechanism is essential for preventing and detecting fraud within public and private organizations. Previous research reported that unreported fraud might persist and develop into an unhealthy organizational culture. However, whistleblowing disrupts the culture momentarily and reduces long-term costs for the organization. Brown et al. (2016) developed a model of accountants' whistleblowing intention as a motivation influencing behavior. This variable represents an individual's subjective probability assigned to the likelihood of whistleblowing behavior for uncovering accounting fraud. In addition, (Brown et al., 2016) integrated TPB with the triangle to model professional accountants' intention to report material accounting fraud. Empirical results showed that attitude and perception of control were positively related to the concept. Perception of signals and greater certainty of criminal signals also have a positive correlation. Conversely, whistleblowing intention is reduced when signals are weak and obscured by noise. Previous research showed that personal beliefs relating to the occurrence of crime affected the willingness to report a situation.

Attitude Towards Behavior on Whistleblowing Intention

Rationalization is the justification by individuals for certain actions (Brown et al., 2016). According to TPB and hexagon fraud, the concept of attitude differs and comprises perceived behavior control and subjective norm (Cohen et al. 2010). Attitude refers to the extent to which individuals have pleasant or unpleasant evaluations or assessments of behavior (Ajzen, 2001). The intention to whistleblow or remain silent is rationalized based on perceived perception, subjective norm, and attitude. Research conducted by Brown et al. (2016); Latan et al. (2019, 2021); Sarikhani & Ebrahimi, 2021) stated that rationalization affected whistleblowing intention.

Individuals are more likely to engage in behavior when subjected to a favorable evaluation. Empirical research showed that rationalized attitude or ethical evaluation was related to behavior intention of performing an action (Brown et al., 2016; Latan et al., 2019, 2021). For example, (H. Lee et al., 2021; Tudu, 2020) established a relationship between attitude characteristics and whistleblowing intentions. In this context, individuals who believe in whistleblowing ethics intend to engage in the action (Nuswantara, 2023). The organizational attitude of accountants towards reporting violations also affect the decisions to engage in behavior.

H₁: Accountants' attitude towards reporting fraudulent accounting activities positively affect whistleblowing intention.

Subjective Norm on Whistleblowing Intention

Incentives for whistleblowing are obtained from economic, social, and moral aspects. Economic and social incentives originate from external sources, while moral incentives are obtained from an individual. In this context, whistleblowing materializes due to support in economic, social, and moral aspects. Economic support is evident when there is an incentive or reward in the form of money. Dodd-Frank Act of 2010 provided compensation to whistleblowers and social support strengthened the ability to report financial fraud. This support is obtained from various parties, such as governments and community groups. Meanwhile, the laws protecting witnesses and victims exemplify social support for whistleblowing actions. Moral incentives include an individual's motivation to act ethically based on egoism, self-interest, virtue, collective interests, and principles (Ahmad et al., 2014).

Collusion is only considered a crime when the actions planned by the partners constitute a criminal act, thereby forming a conspiracy (Crook & Nixon, 2019) or secret cooperation (Porter, 2005). In this context, cooperation tends to be more collective, emphasizing relationships with others, obedience to authority, group goals, and community harmony. Collusion refers to deliberate actions of intentionally assisting others to be dishonest, while collaboration shows working to solve or better understand intellectual problems (Crook & Nixon, 2019). Therefore, collusion and collaboration are often used with negative and positive connotations, respectively. Whistleblowing is a collaborative action comprising more than one party and the prevention of losses decreases

without assistance from others. Accountants engage in the act by reporting financial fraud to superiors or others to prevent financial losses. Indirectly, there is collaboration with others to prevent and detect financial fraud. The report is initiated based on the whistleblower's initiative, and the process is not based on organizational hierarchy. Therefore, accountants can report fraudulent actions to superiors, audit committees, and directly to authorities.

Factors influencing human behavior include normative beliefs, which generate perceived social pressure or subjective norm (Ajzen, 2001). In this concept, subjective norm is the individual's perception of social effect on the decision to engage or refrain from a specific behavior (Ajzen, 1991). The variable affects whistleblowing intention, as reported by (Brown et al., 2016; Sarikhani & Ebrahimi, 2021), Brown et al. (2016) and Sarikhani & Ebrahimi (2021).

H₂: Accountants' subjective norm towards reporting financial fraud positively affects whistleblowing intention.

Perceived Behavior Control on Whistleblowing Intention

Accountants should be able to engage in whistleblowing without any obstacles. Opportunities arise when individuals have asymmetric knowledge about wrongdoing, as well as a moral or legal obligation to report actions and issues. These opportunities significantly affect whistleblowing intention, and auditors prefer internal and anonymous channels to report violations (Latan et al., 2019). Academic education, business training programs, and development efforts collaborate to cultivate educated professionals focused on enhancing moral awareness, competence, and character. This training improves accountants' understanding of whistleblowing as well as provides the skills and knowledge necessary for effective reports. Accountants with whistleblowing capabilities possess the ability to prevent and detect fraud. Individuals having high self-efficacy can engage in whistleblowing behavior to produce desired outcomes. In this context, self-efficacy may be related to an internal locus of control (Kanojia et al., 2020). Kanojia et al. (2020) reported that whistleblowing intention with knowledge of retaliatory effects was primarily driven by individuals with an internal locus of control.

Arrogance, reflecting an individual's ego, is characterized by pride or a lack of conscience, a superior attitude, and the belief that internal con-

trols do not personally apply (Crowe, 2011). Ego in whistleblowing is high self-esteem in detecting and preventing fraud. Individuals with high egos tend to engage in whistleblowing due to self-assertion. Major results during audits are achievements for public accountants and external auditors. Accountants who discover fraud report the actions as an accomplishment and conduct whistleblowing than those with low self-esteem (Near & Miceli, 1985; Valentine & Godkin, 2019; Butler et al., 2020; Riantika, 2021; Otchere et al., 2023; Anggreani & Falikhatun, 2024).

Perceived control refers to the ease or difficulty experienced in performing behavior and is assumed to reflect anticipated barriers and obstacles. As a general rule, attitude, subjective norm, and perceived behavior control are directly proportional to the intention of engaging in a particular behavior (Ajzen, 1991). The ease or difficulty experienced includes perceptions of hexagon fraud. Accountants with high egos feel capable of seizing opportunities and reporting financial fraud by cooperating with others to prevent and mitigate the concept. According to TPB, internal and external whistleblowing intentions regarding accounting errors are higher when there is greater perceived behavior control (Brown et al., 2016; Latan et al., 2019).

H₃: Accountants' perceived behavior control over reporting fraudulent accounting activities positively affects whistleblowing intention.

3. Data and Methods

The research examines the factors influencing accountants' whistleblowing intention by integrating hexagon fraud and TPB. The data were collected by distributing questionnaires to respondents through Google Forms. Out of the 486 questionnaires distributed, 238 responses were received, and only 219 (45%) were valid. The questionnaire aimed to gather demographic information about the respondents. According to data from the Indonesian Institute of Public Accountants (IAPI), public accounting firms are located in Jakarta and Banten.

The questionnaire used adopted items from previous research conducted by Brown et al. (2016) and Sarikhani & Ebrahimi (2021). Whistleblowing intention variable questionnaire consisted of 4 questions obtained from (Brown et al., 2016). In addition, subjective norm questionnaire comprised 9 questions adopted from Sarikhani & Ebrahimi (2021) and Vousinas (2019). Attitude qu-

questionnaire included 5 questions adopted from Sarikhani & Ebrahimi (2021), while perceived behavior control consisted of 5 questions from Sarikhani & Ebrahimi (2021). The questionnaires used have been validated for reliability and validity.

The statistical analysis tool used was Partial Least Squares (PLS) version 3. Descriptive statistics provide an overview or description of data, including measures such as mean, standard deviation, variance, maximum and minimum values (Ghozali, 2016). Data accuracy also depended on the instrument's quality, and a good questionnaire was expected to meet validity and reliability criteria. A questionnaire was considered valid when the items or statements effectively obtain the required measurement. Meanwhile, validity was tested by comparing the square root of each Average Variance Extracted (AVE) with the correlations between constructs in the model. A questionnaire was valid when the AVE value of each construct was ≥ 0.50 (Ghozali, 2008). Reliability testing measured the internal consistency of a questionnaire, which served as an indicator of the variables. This variable was obtained using Com-

posite Reliability testing where a value ≥ 0.70 was acceptable (Ghozali, 2008).

The data were tested using the predefined model as follows:

$$WBI = \alpha_0 + \alpha_1PCB + \alpha_2SN + \alpha_3ATW$$

Where: WBI= Whistleblowing Intention; PCB= Perceived behavior control; SN= Subjective norm; ATW= Attitude toward behavior

4. Result

The descriptive statistical testing shows the age, years of service, gender, and highest education level of the respondents, as presented in table 1. A total of 219 questionnaires were tested, with respondents aged between 21 and 52. Only 118 of the respondents completed the questionnaire with up to 5 years of work experience, while 72.6% were female. The respondents had a high level of education, with 68.5% being bachelor's degree program graduates. The population consisted of external auditors in Jakarta and Banten. A total of 486 questionnaires were distributed, and 219 responses were processed

Table 1. Descriptive Data

| Age | Total | Years of Service | Total | Gender | Total | Education Level | Total |
|-------|-------|------------------|-------|--------|-------|-----------------|-------|
| 21-25 | 40 | 1-5 | 118 | P | 159 | D3 | 6 |
| 26-30 | 49 | 6-10 | 71 | L | 60 | S1 | 150 |
| 31-35 | 53 | 11-15 | 16 | | | S2 | 63 |
| 36-40 | 36 | 16-20 | 7 | | | | |
| 41-45 | 18 | 21-25 | 6 | | | | |
| 46-50 | 15 | >25 | 1 | | | | |
| >50 | 8 | | | | | | |
| Total | 219 | | 219 | | 219 | | 219 |

Table 2. Data Sample Quality

| Variable | AVE | Composite Reliability |
|----------------------------|-------|-----------------------|
| Whistleblowing Intention | 0.814 | 0.946 |
| Attitude toward behavior | 0.809 | 0.955 |
| Subjective Norm | 0.851 | 0.972 |
| Perceived behavior control | 0.748 | 0.937 |

Based on the data quality testing, table 2 explains that the AVE values for whistleblowing intention, perceived behavior control, subjective norm, and attitude toward behavior are above 0.7. Therefore, each variable has good validity based on the respective indicators in the questionnaire. The latent variables also achieved composite reliability values above 0.9 for the variables. This shows the high consistency and stability of the instrument used. Therefore, the variables are valid, and the questions have good reliability. This re-

search has met the criteria for validity and reliability, as presented in table 3.

Table 3. Results of Research Analysis

| Variable | Coef. | Original sample | t-statistic | p-value |
|----------------------------|-------|-----------------|-------------|---------|
| Whistleblowing Intention | | | | |
| Attitude toward behavior | 2.924 | 0.238 | 2.924 | 0.004 |
| Subjective norm | 4.612 | 0.377 | 4.612 | 0.000 |
| Perceived behavior control | 4.578 | 0.339 | 4.578 | 0.000 |

SmartPLS Original Sample shows that attitude toward behavior significantly affects whistleblowing intention, with a coefficient of 0.238 and t-statistic value of 2.924, higher than the T-table value (1.96). Based on the testing results, attitude towards behavior positively and significan-

tly affects whistleblowing intention. Therefore, the first hypothesis is accepted.

The results show a significant positive effect of subjective norm on whistleblowing intention, with a coefficient of 0.377 and t-statistic value of 4.612, higher than the t-table value (1.96). Based on the testing results, subjective norm positively and significantly affects whistleblowing intention and the first hypothesis is accepted.

A significant positive effect of perceived behavior control on whistleblowing intention is reported, with a coefficient of 0.339 and a t-statistic value of 4.578. This t-statistic value is higher than the t-table value of 1.96, showing statistical significance. Based on the results, perceived behavior control has a positive effect on whistleblowing intention and the first hypothesis is accepted.

5. Discussion

Attitude towards behavior has a positive and significant impact on whistleblowing intention. This result supports TPB and previous research (Brown et al., 2016; Lee et al., 2021; Sarikhani & Ebrahimi, 2021; Tudu, 2020). Attitude towards whistleblowing can affect the tendency to report misconduct as a significant predictor of the intention. In this context, rationalization is used to reduce the negative effects of "bad" behavior. Since misreporting contradicts beliefs, the consideration also anticipates uncomfortable feelings (Pepitone & Festinger, 1959). Individuals capable of logical thinking reduce negative feelings associated with misreporting behavior (Murphy & Dacin, 2011). Auditors use logical reasoning to assess situations and are more likely to report specific incidents, as over 50% of respondents are in the working age group. The importance of actions can be understood with a high level of education and sufficient experience. This shows an integration of hexagon fraud and the TPB.

Based on the testing results, subjective norm have a positive and significant effect on whistleblowing intention. This result supports the TPB and previous research (Brown et al., 2016; H. Lee et al., 2021; Sarikhani & Ebrahimi, 2021; Tudu, 2020). Incentives and collusion are integrated within subjective norm and affect whistleblowing intention. These variables represent normative beliefs that shape individual, group, and organizational behavior and decision-making. The beliefs reflect societal values and norm regarding the use of incentives and the existence of collusion in various contexts (Acemoglu et al., 2005; Ogilvie &

Carus, 2014; Jones, 2021; Kubbe et al., 2024; and Inquiry & Liu, 2024). Subjective norm refers to perceived social pressures or expectations affecting individual behavior (Ham et al., 2015). Individuals rationalize the norm to justify the actions or conform to socially acceptable beliefs. Norm and guideline play a crucial role in auditing, providing a framework to perform duties (Agrawal & Hancock, 2012; and Jejenywa et al., 2024). This framework ensures that auditors adhere to professional standards and ethical principles, enhancing the audit process's credibility and integrity (Anggraini, 2020). Auditors often rationalize the norm to justify actions or balance socially acceptable beliefs. Approximately 219 auditors have completed higher education, and over 100 have over 5 years of experience, supporting the use of normative justifications to maintain professional reputation and avoid potential criticism or backlash. Meanwhile, subjective norm affect an individual's intention to report fraud. This shows the integration of hexagon fraud and TPB in whistleblowing.

Based on the results, this research supports the TPB and previous research Tudu (2020); Lee et al., (2021); Sarikhani & Ebrahimi (2021). The integration of ego, opportunity, and capability components of hexagon fraud with perceived behavior control from the TPB affects whistleblowing intention. Perceived behavior control is associated with rationalization, which refers to the cognitive process where individuals justify or explain behavior in line with beliefs, values, or desires (Van Bavel et al., 2020; and Wiguna et al., 2020). This variable has been shown to positively affect whistleblowing intention, hence the higher an individual's perceived control over behavior, the greater the likelihood of reporting violations. Descriptive data shows that auditors under 5 years of experience totalled 211, with a minimum of 1 year of experience and at least a diploma 3 education. Auditors are expected to control behavior and use rationalization to justify ethical actions such as whistleblowing. Therefore, efforts to enhance individuals' perception of behavior control can increase opportunities for whistleblowing.

In this research, there are several contributions to whistleblowing literature. First, components of hexagon fraud, such as opportunity, incentive, capability, competence, collusion, arrogance, and rationalization, are integrated with TPB to explain and predict whistleblowing intention accurately. Second, the components are used as the foundation for TPB. Third, theoretical lite-

rature is expanded by providing empirical evidence in Indonesia as a developing country.

6. Conclusion and Suggestion

Conclusion

In conclusion, attitude, subjective norm, and perceived behavior control integrated with hexagon fraud affected whistleblowing intention. Meanwhile, individuals' attitude was a significant predictor of the intention. Organizations should focus on enhancing a positive attitude towards internal control systems as well as integrity and preventing financial losses for the company. Improved training and policies can serve as effective mechanisms to change employees' attitude toward reporting violations. Subjective norm also affected whistleblowing intentions, where support from others increased the likelihood of reporting fraud. Meanwhile, perceived behavior control was positively correlated with the variable.

Suggestion

Suggestions for further research include differentiating between cognitive and affective processes influencing whistleblowing intention among accountants. This differentiation provides deeper insights into the elements of TPB. Additionally, future research should examine actual whistleblowing behavior, bridging the gap between intention and action in organizational settings.

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