



# Determinants of Asset Misappropriation: An Empirical Testing of the Fraud Diamond Theory Model

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**Abstract** This study discusses the critical issue of asset misappropriation in the public sector, a phenomenon that significantly undermines institutional integrity and the country's financial stability. The purpose of this study is to empirically analyze the influence of pressure, opportunity, rationalization, and capability on asset misappropriation in government organizations. This study uses quantitative methodology; data collected from 137 public sector employees in Semarang City and analyzed through Partial Least Squares (PLS)-based Structural Equation Modeling (SEM) using SmartPLS 4.0. The results show that the four variables, namely pressure, opportunity, rationalization, and capability, have a positive and significant effect on asset misappropriation

**Keywords** pressure; opportunity; rationalization; capability; asset misappropriation

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## 1. INTRODUCTION

Fraud is an intentional act committed by an individual or organization that results in loss to another party. The Association of Certified Fraud Examiners (ACFE), an international anti-fraud organization, defines fraud as an act committed knowingly by an individual or organization that results in loss to another party. There are at least three types of fraud issues faced by an organization. The Association of Certified Fraud Examiners (ACFE) categorizes fraud into three types, namely asset misappropriation, financial statement fraud, and corruption.

Asset misappropriation has the highest number of cases compared to corruption and financial statement fraud. Based on the results of the 2024 Report to The Nations conducted by ACFE Global, the number of asset misappropriation cases is still high. The number of asset misappropriation cases from 2020 to 2024 is the highest, namely 86% in 2022 and 89% in 2024. The second most common type of fraud is corruption. In 2020, it accounted for 43% of cases, in 2022 it accounted for



50%, and in 2024 it accounted for 48%. Financial statement fraud ranks third. In 2020, it accounted for 10% of cases, in 2022 it accounted for 9.0%, and in 2024 it accounted for 5%.

Asset misappropriation can be defined as fraudulent acts committed by exploiting an organization's assets for personal gain through theft, embezzlement, or misuse (Ardi & Urumsah, 2024). Empirically, research on asset misappropriation has been conducted previously. Research by Ardi & Urumsah (2024), Kusuma & Aziz (2025) and Priyadi et al., (2025) examined the influence of pressure, opportunity, rationalization, and ability on asset misappropriation. According to Abdullahi and Mansor (2018), pressure is a key factor in committing fraud. Research conducted by Bakri et al., (2017) found that the fraud triangle element can increase asset misappropriation. Research by Priyadi et al., (2025) and Kusuma & Aziz (2025) found that high pressure increases the amount of asset misappropriation.

In addition to pressure, based on the fraud diamond theory, another factor that causes a person to commit asset misappropriation is opportunity. Opportunities arise due to weak internal controls within an organization. Research by (Ibrahim, 2023) and Said et.al.,(2018) found that opportunities can increase the occurrence of asset misappropriation. These results differ from the findings of (Isa et al., 2024) who found no influence between rationalization and asset misappropriation.

Based on the fraud triangle theory, the third factor that causes a person to commit asset misappropriation is rationalization. Rationalization can be said to be the perception of an action that is ethically and morally wrong as justification. Research findings (Yusrianti et al., 2020) and (Talib et al., 2024) found that the existence of behavioral rationalization increases the occurrence of asset misappropriation. Other research findings show different results, namely the study (Kusuma & Aziz, (2025) which found that rationalization does not affect asset misappropriation.

Capability is one of the new factors developed previously that is considered a determining factor for individuals to commit asset misappropriation. Wolfe dan Hermanson (2004) added capability as an important element for individuals to commit fraud. Individuals will not commit fraud without capability even if they have pressure, opportunity, and rationalization. Kusuma & Aziz (2025) and (Ratmono et al., 2025) found that capability can increase the occurrence of asset misappropriation.

The high number of cases of asset misappropriation in the public and government sectors indicates systemic vulnerabilities that not only harm state finances but also distort public trust in the integrity of the bureaucracy. The importance of this research lies in the need to dissect how the interaction between financial and non-financial pressures experienced by officials, the availability of opportunities due to loopholes in the internal control system, rationalization patterns that

legalize unethical actions, and the ability of individuals to manipulate their authority intertwine to trigger fraudulent practices. By examining the influence of these four elements of the fraud diamond, this research is crucial for identifying the root causes of occupational fraud specifically in government agencies, thereby enabling the formulation of more precise prevention strategies, strengthening the effectiveness of oversight, and creating clean and accountable governance.

## 2. LITERATURE REVIEW

### FRAUD DIAMOND THEORY

The fraud diamond theory is an extension of the theory of fraud developed previously. The fraud diamond theory develops a model from the fraud triangle, which has three factors that determine whether a person commits fraud. These three factors are pressure, opportunity, and rationalization. According to Wolfe dan Hermanson (2004), capability is a determining factor in addition to pressure, opportunity, and rationalization that causes individuals to commit fraud. The fraud diamond theory explains that pressure can cause a person to seek opportunities. Pressure and opportunity can encourage rationalization. At the same time, none of these factors work alone or together; there must be a capability factor that causes a person to engage in fraud (Priyadi et al., 2025) Capability is considered an important factor in an individual's decision to commit fraud within an organization. An individual with capability is considered more likely to commit fraud. Most fraud within an organization is committed by individuals with greater capability than ordinary individuals.



Figure 1, Fraud Diamond Theory Wolfe dan Hermanson (2004)

The Fraud Diamond Theory perspective postulates that asset misappropriation is a manifestation of the multidimensional interaction between individual determinants and structural failures within organizations. Conceptually, these actions are triggered by pressure, both financial and non-

financial, which is then realized through opportunities that arise due to weak internal control mechanisms and minimal supervision of organizational assets. Rationalization acts as a cognitive mechanism for perpetrators to align their deviant behavior with personal values in order to reduce moral dissonance. However, the success of executing systemic fraud is highly dependent on individual Capability, which includes job authority, technical knowledge to manipulate system loopholes, and psychological resilience to avoid audit detection, making the element of capability a crucial factor in the escalation of asset misuse risk within an organization.

## **RESEARCH HYPOTHESIS**

Pressure is one of the elements in the fraud diamond theory that causes a person to commit fraud. The pressure felt by individuals causes them to recklessly commit fraud, one of which is asset misuse. Kassem and Higson (2012) divide pressure into three types that are considered to cause fraud. These pressures consist of pressure from the individual themselves, pressure from the company, and external pressure. Pressure from the company can also be financial or non-financial. Financial pressure from the company includes low salaries, management's financial interests, and an unclear compensation structure. Non-financial pressure from the company includes changes in the work system, frustration with work, and injustice within the company. External pressures of a financial nature include threats to business financial stability and the influence of market competition. Meanwhile, external pressures of a non-financial nature include ego, social pressure, and reputation. The results of studies Nugroho & Handayani (2022), Isa et al., (2024), and Yusrianti et al., (2020) found that pressure has a positive effect on asset misuse. These results show that the increase in cases of asset misuse is due to the pressure experienced by individuals.

H1 : Pressure has a positive effect on asset misappropriation

Opportunity is one of the factors that drives individuals to commit fraud. Based on the fraud diamond theory, the element of opportunity supports the existence of pressure. Individuals who are under pressure will not misuse assets if there is no opportunity. One indicator of the opportunity to commit fraud is weak internal controls within an organization. According to ACFE Indonesia Chapter 2024, fraud still occurs frequently due to weak supervision by companies or organizations. Individuals take advantage of this weakness to commit fraud. Empirically, research by Ariffin et al., (2023) and Nugroho & Handayani, (2022) found that opportunity has a positive effect on asset misuse. Several of the above research results show that weak internal controls are exploited by individuals to commit fraud.

H2 : Opportunity has a positive effect on asset misappropriation

Rationalization can be described as an attitude held by individuals that what they do is justified. Rationalization occurs before individuals commit fraud. According to Kassem dan Higson (2012),

individuals commit fraud for the first time and have no record of violations. They assume that they are honest individuals who are simply caught in a situation full of uncertainty. This assumption allows individuals to justify the crime itself in a way that makes it acceptable or justifiable. Empirically, research Ariffin et al., (2023), Nurani & Fuad, (2022) and Nurani & Fuad,( 2022) found that rationalization influences asset misuse. The above studies show that employee rationalization within an organization can increase the occurrence of asset misappropriation.

H3 = rationalization has a positive effect on asset misappropriation

Capability is the final factor in the fraud diamond theory that can cause someone to commit fraud. Wolfe dan Hermanson (2004) believe that individuals can commit fraud because they have the capability to do so. The position held by an individual is one of the factors that can enable them to commit fraud. If the position is strategic enough, it will be easier to control the company. In general, an individual's understanding of the company's business is also a factor that makes them vulnerable to committing fraud. Empirically, research by Isa et al., (2024), (Kusuma & Aziz (2025) and Ibrahim (2023) found that an individual's capability has a positive effect of asset misappropriation.

H4 = capability has a positive effect on asset misappropriation

### 3. METHODS

This study was conducted to examine and analyze the factors that influence asset misuse from the perspective of fraud diamond theory. The data collection method in this study used questionnaires related to the research topic to obtain data. The population in this study consisted of all employees with positions as staff, treasurers, asset managers, and sub-division heads working in the Finance and Asset Subdivision of the Offices and Agencies in the city of Semarang. The sample size in this study was 140 employees.

This study uses a quantitative approach with the Partial Least Squares-based Structural Equation Modeling (PLS-SEM) analysis method operated through SmartPLS 4.0 software to examine the influence of pressure, opportunity, rationalization, and capability on asset misuse. SmartPLS 4.0 was chosen because of its superior ability to process complex research models with relatively small sample sizes, as well as its flexibility in handling non-normally distributed data, which is often encountered in research on fraudulent behavior in the public sector. Using this software, two main stages of evaluation were carried out, namely the measurement model assessment (outer model) to test the validity and reliability of the research indicators, and the structural model assessment (inner model) to test the significance of the relationship between variables and the predictive power of the fraud diamond model in explaining the phenomenon of asset misuse empirically.

#### 4. FINDINGS AND DISCUSSION

##### Outer Model

Researchers evaluate the outer model to ensure that each measurement instrument has a solid degree of validity and reliability before testing hypotheses. Researchers assess Convergent Validity through factor loading values with a threshold above 0.70 and Average Variance Extracted (AVE) values exceeding 0.50 to prove that latent variables can explain the majority of indicator variance. Next, researchers test Discriminant Validity using the Fornell-Larcker or Heterotrait-Monotrait Ratio (HTMT) criteria to verify that each latent variable is empirically different from other variables in the model. To ensure the internal reliability of the instrument, the researcher measured Composite Reliability (CR) and Cronbach's Alpha, where a value above 0.70 indicates that all indicators have excellent consistency in measuring the dimensions of pressure, opportunity, rationalization, capability, and asset misappropriation.

##### Structural Inner Model

Table 1 R-Squares Value

	R Square	R Square Adjusted
<b>Asset Misappropriation</b>	0,796	0,774

Source: processed data, 2025

Based on Table 1, the R-Square value is 0.774, which means that 77.4% of asset misuse variables are influenced by pressure, opportunity, rationalization, and capability. The remaining 22.6% is influenced by other variables.

##### Hypothesis Testing

Table 2 Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
<b>Pressure -&gt; Asset Misappropriation</b>	0,526	0,630	0,134	3,249	<b>0,000</b>
<b>Opportunity -&gt; Asset Misappropriation</b>	0,197	0,405	0,089	4,479	<b>0,017</b>
<b>Rationalization -&gt; Asset Misappropriation</b>	0,750	0,859	0,144	4,578	<b>0,000</b>
<b>Capability -&gt; Asset Misappropriation</b>	0,451	0,466	0,124	5,444	<b>0,000</b>

Source: processed data, 2025

##### The Effect of Pressure on Asset Misappropriation

Based on Table 2, the original sample value of the pressure variable on asset misappropriation is 0.526 and the t-statistic value is 3.249, which is greater than the t-table value of 1.96. In addition,

the p-value is also significant below 0.05, namely 0.000, so that pressure has a positive effect on asset misappropriation. This result indicates that the more pressure employees experience, the more likely they are to misuse assets. This result is also in line with the fraud diamond theory, which explains that one of the factors that causes a person to commit fraud is the pressure experienced by the individual. The more a person is pressured due to their inability to control their emotions, the more likely they are to commit asset misappropriation fraud. These results are also in line with previous studies conducted by Nugroho & Handayani (2022), Isa et al., (2024), Andriani et al., (2024) and Yusrianti et al., (2020), which found that high pressure increases the number of cases of asset misappropriation fraud.

One of the reasons why people are willing to misuse assets is financial pressure. Financial pressure is one of the most common factors that cause people to act recklessly, even to the point of stealing assets or using them improperly. According to Albrecht et al. (2011), around 95% of the pressure that causes someone to commit fraud stems from financial pressure. In addition to financial pressure, other factors that can increase the occurrence of asset misappropriation fraud are the luxurious lifestyle of employees, the high cost of vehicle maintenance, the difficulty of meeting performance indicators, and having a large responsibility for family finances, which will also have an impact on the occurrence of asset misappropriation.

#### **The Effect of Opportunity on Asset Misappropriation**

Based on Table 2, the original sample value of the opportunity variable on asset misappropriation is 0.197, and the t-statistic value is 4.479, which is greater than the t-table value of 1.96. The analysis results show that opportunity has a positive effect on asset misuse with a P-Value of 0.017. Although its effect is not as strong as other variables, this value is still below the significance threshold of 0.05, which means that gaps in the system allow fraud to occur. Opportunity usually arise when internal control mechanisms are weak, there is no clear separation of duties, or supervision of physical assets is inadequate in the relevant agencies. These results are also in line with previous studies conducted by Kusuma & Aziz, (2025), Suluo & Mayemba (2023), Ariffin et al., (2023) and Nugroho & Handayani, (2022), which found that high opportunity increases the number of cases of asset misappropriation fraud.

The existence of opportunity provides a way for individuals who are under pressure to carry out their malicious intentions. In the public sector, weak internal audit systems or overly permissive organizational cultures are often seen as a “green light” for perpetrators to take state assets without fear of early detection. Strengthening internal control systems and implementing technology-based supervision are urgent solutions to narrow the space for perpetrators to exploit organizational assets for personal gain.

### **The Effect of Rationalization on Asset Misappropriation**

Based on Table 2, the original sample value of the rationalization variable on asset misappropriation is 0.750, and the t-statistic value is 4.578, which is greater than the t-table value of 1.96. Rationalization was found to be the most dominant factor in this study, with the highest original sample value of 0.750 and a P-value of 0.000. This finding is crucial because it shows that self-justification for illegal actions is the main trigger for asset misuse. Perpetrators tend to convince themselves that taking company assets is not theft, but rather a form of “borrowing” or compensation for hard work that is not properly appreciated by the organization. These results are also in line with previous studies conducted by Yusrianti et al., (2020), Ariffin et al., (2023), (Nurani & Fuad, 2022) and Nurani & Fuad,( 2022), which found that high rationalization increases the number of cases of asset misappropriation fraud.

The internal and cognitive nature of rationalization makes it a factor that is difficult to detect through conventional audits. In bureaucratic environments, rationalization often takes the form of normalizing practices such as gratuities or the use of office facilities for personal gain because “everyone else is doing it.” The high rate of rationalization requires organizations to focus more on building integrity and an ethical work culture to prevent individuals from creating moral justifications for their corrupt behavior.

### **The Effect of Capability on Asset Misappropriation**

Based on Table 2, the original sample value of the capability variable on asset misappropriation is 0.452, and the t-statistic value is 5.444, which is greater than the t-table value of 1.96. The capability variable has a significant positive influence on asset misappropriation with a very strong t-statistic value of 5.444 and a P-Value of 0.000. This confirms that fraud requires not only intent and opportunity, but also expertise and authority to execute and conceal such actions. The capability element completes the fraud triangle to form a fraud diamond, in which individuals who hold strategic positions or have a deep understanding of accounting systems are at greater risk of committing asset misappropriation. These results are also in line with previous studies conducted by Isa et al., (2024), (Kusuma & Aziz (2025) and Ibrahim (2023), which found that high capability increases the number of cases of asset misappropriation fraud.

In government organizations, those in power or individuals with high technical access are often able to bypass existing security procedures without arousing suspicion. Capability allows them to manipulate records or use their authority to facilitate the ongoing misuse of assets. The results of this study recommend regular job rotation and special monitoring of key positions that have a high capability to exploit the system.

## 5. CONCLUSION

Based on the results of the data analysis, this study concludes that all dimensions in the Fraud Diamond, namely pressure, opportunity, rationalization, and capability, significantly trigger asset misappropriation in organizations. Rationalization has been proven to be the most dominant driving factor, whereby justification for deviant behavior provides a psychological basis for individuals to commit fraud. Meanwhile, financial pressure and organizational targets create initial motivation, which is reinforced by gaps in the internal control system (opportunity) and the authority and expertise of individuals (capability) to manipulate assets without being detected. Overall, these findings confirm that mitigating asset misappropriation requires a holistic approach that not only tightens technical oversight but also addresses employee integrity and well-being.

For future research, it is recommended that researchers expand the scope of variables by adding modern factors such as arrogance to test the Pentagon Fraud model or integrate organizational culture variables and the effectiveness of technology-based monitoring systems as moderating variables. In addition, it is also recommended to use qualitative methods or in-depth case studies to further explore the subjective phenomenon of rationalization, given that this variable has the strongest influence on the current research results. Future research can also expand the research object to different private sectors or conduct comparative studies between agencies in order to obtain broader generalizations of the results regarding patterns of asset fraud in various organizational structures.

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