

## Determining Factors of Asset Misappropriation Tendency by Employees in Perspective of Fraud Hexagon Theory

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### Abstract

**Purposes:** The purpose of this investigation is to employ the fraud hexagon theory to examine the underlying causes of employee asset misappropriation and to provide tangible evidence in support of it. The theory proposes six factors, namely incentives, opportunities, rationalization, capabilities, ego, and collusion, which act as triggers for fraudulent activities. This study has grouped the stimulus factor into financial and non-financial components. The findings reveal that financial pressure, opportunity, capability, ego, and collusion are the significant contributing factors to asset misappropriation by employees.

**Methods:** The study obtains data by distributing questionnaires to 218 participants, employees from 5 departments of XTZ Hospital, in Semarang. Only those who work in structural and functional positions are the participants, considering they are responsible for hospital asset management. To collect data, this study implements a proportional stratified random sampling method and tests the hypothesis by using VB.

**Findings:** Non-financial pressure and rationalization were not found to have an impact. The study is noteworthy for being one of the few to explore asset misappropriation concerning the fraud hexagon theory.

**Novelty:** It provides valuable insights into the reasons behind asset misuse tendencies, which have been understudied. The study also highlights the importance of collusion as a factor in asset misuse and suggests that its identification could be useful in preventing such occurrences in the future. The element of collusion is only found in the fraud hexagon theory.

### Keywords:

*Financial Pressure, Fraud Hexagon Theory, Asset Misappropriation*

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## INTRODUCTION

Instances of company fraud can stem from both internal and external sources. Internal parties responsible for such activities may include employees, management departments, as well as owners or directors (Asmah et al., 2020; Nigrini, 2019; Zahari et al., 2020). According to ACFE Indonesia, the majority of fraud cases were carried out by employees (31.8% of participants), followed by directors/owners (29.4%), managers (23.7%), and other parties (15%). However, a shift in trend was noted in the Indonesia Fraud Survey conducted in 2016, which reported that

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fraud was executed by managers, directors/owners, and employees simultaneously. Furthermore, the 2020 Report to the Nations reveals that employees are primarily responsible for committing fraud within the workplace (ACFE Indonesia, 2020). While the reality indicates that fraud cases by employees increase, academic researchers merely focus on fraud committed by managers and directors.

According to ACFE in its 2020 Report to The Nations, the most common and frequent fraud schemes are asset misappropriation schemes with 86% of cases. Compared with corruption and financial report manipulations, asset misappropriation cases are on top of the list followed by corruption and then financial report manipulations. The ACFE Global also stated that asset misappropriation cases increased in the last few years. In 2012, the case was more than 80% while it became 89% in 2018. Individuals were committed to asset misappropriation in the workplace and used them to take care of their personal spending (Albrecht et al., 2010). Despite the increase in fraud cases committed by employees, academic researchers have predominantly focused on instances of fraud committed by managers and directors.

Previous studies, such as Owusu et al. (2021); Koomson et al. (2020); and Said et al. (2017) have primarily relied on the fraud triangle theory and fraud diamond theory to identify the factors that contribute to fraudulent activities. However, these theories have been criticized for being unclear and insufficiently detailed in their analysis of each element that may promote fraud. Furthermore, instances of fraud have increased in recent times, especially those involving multiple perpetrators that cause significant losses. The report from ACFE (2016) confirms this trend, with the Report to the Nation indicating that almost half of the fraud cases under investigation involve several individuals working in collaboration with each other, resulting in greater losses. Therefore, there is a need for a fraud detection theory that comprehensively covers all the factors that encourage individuals to engage in fraudulent activities. In 2019, Vousinas proposed a more complex theory called the fraud hexagon theory, which consists of six elements believed to be the cause of fraud. These elements include incentive, opportunity, rationalization, capability, ego, and collusion. The fraud hexagon theory offers a more nuanced understanding of the underlying factors that lead to fraud and can prove instrumental in the development of effective anti-fraud measures.

The XYZ Hospital located in Semarang, which operates under the umbrella of Indonesia's Ministry of Health, is the most prominent vertical hospital in Central Java. The hospital employs a diverse range of people, which increases the likelihood of fraudulent activities by its employees.

The hospital has recently experienced a case of fraud, where three perpetrators from the pharmacy division were illegally selling expensive cytostatic drugs used for chemotherapy. The drugs were sold to patients' families without receipts and were not included in the patients' bills, which could lead to significant losses for the hospital if undetected. The hospital's weak asset management is also a factor that enabled the fraud, as the inventory storage places were not centralized, allowing perpetrators to act without proper controls and monitoring. This study is crucial to provide empirical evidence and strengthen the concepts of the fraud theory, considering the various phenomena that have occurred at the XYZ Hospital.

The novelty of this research is to explore the factors that encourage hospital employees to misappropriate assets, using the fraud hexagon theory which includes six components: incentives, opportunities, rationalization, capability, ego, and collusion. The study is unique in that it applies each concept of the fraud hexagon theory to variables that are specific to the XYZ Hospital, the research object.

Stimulus factors can cause a person to tend to commit fraud due to the pressure they face. For example, when employees are under pressure, they may commit fraud to lighten their duties and jobs. This is in line with research conducted by Kazemian et al., (2019); Koomson et al., (2020); and Istifadah & Senjani, (2020) who argue that if the pressure on individuals is greater, it will increase in cases of misuse of assets.

Another driving factor for fraud is the ability of a person. According to Kazemian et al.

(2019), the possibility of fraud, especially in large cases, without someone with a high ability to commit it, the tendency for fraud to occur is low. These results are reinforced by Koomson et al., (2020) and Istifadah & Senjani, (2020), who argue that the ability possessed by an individual has a significant positive effect on asset misuse. So the more the perpetrators of fraud have high ability, the tendency for asset misuse is also high.

Opportunity is one of the causes of fraud which can be prevented by using the organization's internal control system. However, if the organization's internal control is weak, fraud perpetrators will exploit it. The research results of Owusu et al., (2021) found that opportunity is an important variable in explaining why employees commit fraud at work. The same thing was also expressed by Said et al., (2017), namely opportunities significantly contribute to the occurrence of asset misuse.

Fraud perpetrators always rationalize their actions, assuming that their actions are always right (Koomson et al., 2020). This statement was also expressed in Ruankaew's research, (2016) which showed that the element of rationalization played an important role in the occurrence of fraud, so someone unable to express justification for the mistakes he has made is unlikely to be involved in fraud cases. Several previous studies have also found that rationalization elements have a positive effect on asset misuse (Said et al, 2017; Koomson et al, 2020).

The ego factor of each individual must also be considered when detecting fraud. The ego is a personality possessed by a person to be able to make decisions that are considered moral and immoral (Vousinas, 2019). Someone who cares about opinions and what other people think about their actions is due to their ego (Koomson et al., 2020). Therefore, the individual's ego also has a role in influencing an individual who is involved in fraudulent acts such as misusing assets (Koomson et al., 2020).

Vousinas adds collusion to the fraud hexagon theory as the sixth element that had never been stated in the previous theory. According to Vousinas (2019), organizations have mostly released anti-fraud control by separating tasks and also leadership monitoring. However, when several fraud perpetrators work together, they can undermine the process of independent verification of transactions or other mechanisms designed to uncover fraud. The addition of collusive elements aims to detect more crimes committed by two or three more persons, where the element of collusion is very much determining the factors that lead to the resulting fraudulent act large losses because it involves many people (Vousinas, 2019). Refinement and addition of elements that have not been included in the previous fraud theory. According to Vousinas (2019), collusion is an important element which is believed to be the trigger for many complex frauds and causes many losses. (Vousinas, 2019). The ACFE report in Report to The Nations (2016) also found that fraud cases occurred due to a large number of colluding actors. The more actors who collude, the more losses will be borne by an organization because they can damage the anti-fraud prevention system that has been built by the organization (Vousinas, 2019). Therefore the element of collusion is very useful and plays an important role in determining the factors that lead to fraud.

## METHODS

The data for the study was gathered through the distribution of questionnaires to all employees who work in the hospital's asset management divisions. The sampling method used in this study is probability sampling with a proportional stratified random sampling design, which allows for the monitoring of important segments of the population (Sekaran and Bougie, 2017).

The size of the sample is determined by using the table of Krejcie and Morgan (1970). The table shows the decision-making of the sample size by providing a guideline of scientific generalization to ensure the number of samples (Sekaran and Bougie, 2017). Considering the error rate is no more than 5%, the sample has a 95% of trust in the population. According to the

Krejcie-Morgan table with about 439 population numbers, it uses 217 samples – which is the number of samples that will be taken for the research.

Sampling is carried out in each chosen division, such as the pharmaceutical department,

**Table 1.** Number of Employees

No	Department	Number of Employees
1.	Pharmaceutical Installation	249
2.	Nutrition Installation	84
3.	Hospital Facilities and Sanitation Maintenance Installation	55
4.	General Substance Group (Household Section)	29
5.	Central Sterile Supply Department (CSSD)	6
Total Population		423
Total Sample		217

Source: Processed Data, 2022

nutrition, maintenance and sanitation, central sterilization and laundries, and general affair department. Those five departments always maintain the supply needed by other departments in the hospital. Thus, there might be plenty of items being managed and regulated accordingly.

This section of the study provides a detailed description of the research methodology, including the types of research and data used, the population and sample, the operational research variables, the data collection technique, and the data analysis technique used. The methodology description provides sufficient information for readers to understand the research process and can be used as a guide for those interested in conducting similar research.

After determining the number of samples, the number of samples that will be distributed in each department is calculated. The calculation is shown in Table 2 below.

The dependent variable of this study is 'Asset Misappropriation Tendency'. Employee misappropriation of assets refers to a fraudulent scheme where an employee purposefully steals and misuses an organization's resources for personal gain (Koomson et al., 2020; Kazemian et al., 2019). The indicators of this variable include:

- Take organizational resources
- Exploiting organizational weaknesses for personal gain
- Using office time for other personal purposes
- Take office assets home for personal use
- Selling unused inventory items without the knowledge of superiors
- Using office facilities for the best service to get gifts from third parties
- Ignoring work authorization by management
- Borrow office assets for personal use

**Table 2.** Sample Distribution

No	Department	Percentage (%)	Number of Samples
1.	Pharmaceutical	$\frac{249}{423} \times 100\% = 58.86\%$	$58.86\% \times 217 = 128$
2.	Nutrition	$\frac{84}{423} \times 100\% = 19.85\%$	$19.85\% \times 217 = 43$
3.	Maintenance and Facilities	$\frac{55}{423} \times 100\% = 13.00\%$	$13.00\% \times 217 = 28$
4.	General Affair	$\frac{29}{423} \times 100\% = 6.85\%$	$6.85\% \times 217 = 15$
5.	Central Sterile Supply Department (CSSD)	$\frac{6}{423} \times 100\% = 1.42\%$	$1.42\% \times 217 = 3$
Total		100%	217

Source: Processed Data, 2022

- Manipulating expenses for personal gain
- Not complying with all policies regarding the use of assets.
- Providing services outside the procedure

On the other hand, there are seven independent variables of this study, including financial pressure, job pressure, opportunity, rationalization, ability, ego, and collusion. Here are the operational definition and indicators of each.

'Financial Pressure' refers to financial issues experienced by employees (Koomson et al., 2020). The indicators are, such as:

- Salaries are lower than the needs
- Expenditure is greater than income
- Unable to fulfill basic monthly expenditures
- Unable to repay credit card bills
- Many unexpected spending
- Dealing with loans
- Need a side job
- Interested in a lavish lifestyle

The next variable is 'Job Pressure', which refers to every job-related burden and load experienced by employees in the workplace. This variable comes with several indicators.

- Have to meet a high target
- Tight competition
- Lack of support from surroundings
- Loads of responsibility
- Lack of motivation as well as promotion to improve their work

'Opportunity' or Individual Authorization is determined by the employee's level of authority. This pertains to their capability and accountability to fulfill their duties within an organization, despite not being closely monitored by their employers (Kazemian et al., 2019; Said et al., 2017). The indicators of Opportunity include

- Lack of supervision from the employers.
- There is no work report.
- There is no supervision from other parties such as SPI (Internal Supervisory Unit)
- Policies, procedures, and guidelines have not been implemented properly
- Ignoring suggestions and approvals from employers

On the other hand, 'Rationalization' or Seniority can be evaluated based on the seniority perspective. In this context, seniority refers to the conduct of an individual who believes that their higher rank, age, and tenure in the organization allow them to rationalize any action they take, even if it involves committing fraud (Kazemian et al., 2019). The indicators of this variable are, such as:

- Consider their opinions righteous.
- Believing that their actions will help others
- Hiding under "good causes".
- Consider themselves as the right person to get the most freedom (rules are not for them).
- More authority as a reward for his efforts

'Ability' or Individual Talent is based on an individual's talent. Talent, in this context, refers to an employee's proficiency in comparison to their peers, particularly in identifying gaps in company regulations, convincing and impacting colleagues and coworkers, and employing above-average skills for engaging in fraudulent activities (Koomson et al., 2020; Kazemian et al., 2019). The indicators include,

- Ability to finish various tasks
- Persuasive
- Problem-solver trait
- Great communication skill

- Finding the company's weak spots
- Get along very well.

High Self-Esteem or 'Ego' ego is determined by the extent of an individual's high self-esteem. A high self-esteem attitude is a sense of responsibility that an employee feels due to their elevated self-evaluation resulting from their adherence to an ideal standard of behavior (Koomson et al., 2020). Here is the list of indicators.

- Listen to what others think
- Other's thoughts about me affect my self-esteem
- The pride gets hit when making a mistake
- Putting social status on top of everything to avoid negative opinions from others
- Pride becomes the impetus for action
- Avoid risks to maintain self-esteem

'Collusion' or Unethical Acts, on the other hand, is measured by any unethical conduct. Unethical act refers to employee actions that adversely affect their surroundings, such as deception, connivance, exploitation of organizational resources, opting for self-benefit paths, and remaining silent when witnessing fraudulent acts (Koomson et al., 2020). The indicators are, such as:

- Trying to cover up mistakes
- Personal beliefs about right and wrong actions
- Not telling the truth
- Ethical and unethical actions depend on the situation
- Always choose a path that benefits themselves
- Imposing will
- Do not compromise with ethical principles
- Choose a shortcut
- Consistently hide violations

The Likert scale is employed to measure participant's responses, ranging from 1 to 5, with 1 indicating full disagreement and 5 indicating full agreement. The questionnaire is administered directly to the participants, and the data are analyzed using Structural Equation Modeling (SEM). SEM is preferred over other methods due to its accuracy in analyzing participants' opinions and perceptions, as well as its effectiveness in testing complex research hypotheses simultaneously. SEM is categorized into two types: SEM-CB and SEM-VB (SEM-PLS). The former is appropriate for testing and validating theories, while the latter helps researchers in predicting and improving existing theories. Additionally, this study is exploratory, and therefore, the SEM-PLS method is utilized to predict the targeted latent variables.

According to Sholihin & Ratmono (2013), if there is a condition where a theory has not developed, researchers should have considered using SEM-PLS (SEM-VB). On the other hand, the application used for processing data has to be the 7.0 version of WarpPLS. The software is excellent to identify and calculate the relation between non-linear latent variables. Besides, this app has an excellent ability to correct the co-efficient route value according to the relationship mentioned earlier by Sholihin & Ratmono (2013). The main steps of SEM-PLS testing consist of three parts, such as testing the outer model, the inner model, and testing the entire hypothesis.

## RESULTS AND DISCUSSION

The results of the questionnaires show that there are no participants who return to them late – 218 participants are the samples. Those participants are more than the number of predetermined samples, which were 217 participants. The extra participant is from the General Affairs department.

The gender composition shows that females dominate the sample – there are 166 (76%) female employees and 52 (24%) male employees. Demographic data also suggests that most of the participants are from the 31-40 age group – 46% belongs to the 31-40 age group, 29% is from

**Table 3.** Participants Demographic Data

No	Data Description	Number	Percentage
<b>I Gender</b>			
1.	Male	52	24%
2.	Female	166	76%
<b>II Age Now</b>			
1.	20 - 30 years	64	29%
2.	31 - 40 years	101	46%
3.	41 - 50years	39	18%
4.	>50 years	14	6%
<b>III Education</b>			
1.	SMA/SMK/Same Level	9	4%
2.	Diploma	120	55%
3.	S1 / Diploma 4	74	34%
4.	S2	15	7%
<b>IV Length of Work</b>			
1.	1 - 5 years	65	30%
2.	6 - 10 years	72	33%
3.	11 - 20 years	53	24%
4.	21 - 30 years	19	9%
5.	>30 years	9	4%

Source: Processed Data, 2022

the 20-30 age group, 18% is from the 41-50 age group, and the rest – 6% of the participants – is from >50 age group.

Most participants had completed the diploma level – 120 participants or 55% of the total samples. Meanwhile, 34% of them are undergrad graduates (74 people), and 15 employees are post-grad graduates (7%). The rest is high-school graduates (4%).

The length of service percentage between each group is nearly the same. Most of the

**Table 4.** Description of Each Variable

Variable	Theoretical			Empirical			Standard
	Minimum	Maximum	Median	Minimum	Maximum	Median	Deviation
Financial Pressure (TK)	8	40	24	8	40	16.99	6.102
Job Pressure (TP)	5	25	15	5	25	13.96	3.619
Individual Authority (OI)	5	25	15	5	25	11.54	3.556
Attitude of Seniority (SS)	5	25	15	5	25	16.44	3.066
Individual Talent (TI)	6	30	18	6	30	18.91	3.671
High Self-Esteem (HDT)	6	30	18	6	30	17.94	4.018
Unethical Acts (PTE)	9	45	27	9	45	16.67	5.437
Tendency to misappropriation of Assets (KPA)	11	55	33	11	55	17.60	8.370

Source: Processed Data, 2022

**Table 5.** AVE Score Results

Latent Variable	Score AVE	Criteria	Conclusion
TK	0.555	> 0.50	Convergent validity fulfilled
TP	0.535	> 0.50	Convergent validity fulfilled
OI	0.510	> 0.50	Convergent validity fulfilled
SS	0.521	> 0.50	Convergent validity fulfilled
TI	0.541	> 0.50	Convergent validity fulfilled
HDT	0.539	> 0.50	Convergent validity fulfilled
PTE	0.502	> 0.50	Convergent validity fulfilled
KPA	0.733	> 0.50	Convergent validity fulfilled

Source: Processed Data, 2022

employees (33%) have been working in the hospital for between 6-10 years. Meanwhile, 30% of them have been in the hospital between 1-5 years, and 24% between 11-20 years. Moreover, 9% of the total participants work in this hospital between 21-30 years and 4% have been serving the company for >30 years.

#### Measurement Model Evaluation (Outer Model)

##### 1. Convergent Validity

Convergent validity is assessed by examining the value of the Average Variance Extracted (AVE), which should be greater than 0.50. Factors with AVE values less than 0.50 should be re-evaluated in terms of both combined and cross-loading. Additionally, three indicator items should be removed to improve the AVE value. Meeting the requirements of convergent validity can be verified by referring to Table 5.

Table 5 suggests the post-revisions AVE value. Hence, all the indicators have met the eligible model requirements. The results also explain that all the construct in this research has a high correlation.

##### 2. Discriminant Validity

To evaluate discriminant validity, the square root of the Average Variance Extracted (AVE) is examined. The diagonal and curly bracket values of AVE should be greater than the correlation between latent variables in the same column (either above or below). This can be viewed in the "output correlation among latent variables" menu in WarpPLS, and the findings are presented in Table 6.

**Table 6.** Correlation Test Result Between Latent Variables

	TK	TP	OI	SS	TI	HDT	PTE	KPA
TK	<u>(0.745)</u>	0.210	0.363	0.221	0.207	0.345	0.363	0.422
TP	0.210	<u>(0.732)</u>	0.159	0.151	0.155	0.136	0.251	0.103
OI	0.363	0.159	<u>(0.714)</u>	0.132	0.023	0.137	0.439	0.562
SS	0.221	0.151	0.132	<u>(0.722)</u>	0.526	0.263	0.086	0.221
TI	0.207	0.155	0.023	0.526	<u>(0.736)</u>	0.426	-0.021	0.048
HDT	0.345	0.136	0.137	0.263	0.426	<u>(0.734)</u>	0.154	0.305
PTE	0.363	0.251	0.439	0.086	-0.021	0.154	<u>(0.709)</u>	0.589
KPA	0.422	0.103	0.562	0.221	0.048	0.305	0.589	<u>(0.856)</u>

Source: Processed Data, 2022

**Table 7. Reliability Range**

Score r	Notes
r > 0.90	Very highly reliable
r > 0.80	Highly reliable
r > 0.70	Adequately reliable
r > 0.60	Adequately reliable
r > 0.50	Adequately reliable
r < 0.40	Very lowly reliable

Source: Gliem and Gliem, 2003

The achievement of discriminant validity is determined by comparing the square root of the Average Variance Extracted (AVE) with the correlation between latent variables in the same column. AVE values range from 0 to 1, and the target value for discriminant validity is reached when the AVE value exceeds the squared correlation value (Hair et al.,2010). Table 6 indicates that all indicators meet the requirements for discriminant validity. For instance, the Financial Pressure variable (represented as TK) has a value of 0.745, which is greater than the values of the constructs above and below it. Similarly, all other constructs also have values higher than the size of the construct above or below it. Therefore, it can be confirmed that each construct meets the criterion for discriminant validity.

### 3. Composite Reliability

The evaluation of the reliability of each construct can be conducted using composite reliability testing, which is based on two criteria, namely Cronbach's alpha value and composite reliability. Gliem and Gliem (2003) provide a range of criteria for assessing reliability as mentioned above.

**Table 8. Reliability Test Results Using WarpPLS**

Reliability	Score	Conclusion
<b>Cronbach's Alpha</b>		
KPA (Aset Misuse)	0.963	Very high reliability
TK (Financial Pressure)	0.881	High reliability
TP (Job Pressure)	0.780	Adequate reliability
OI (Individual Authority)	0.758	Adequate reliability
SS (Seniority)	0.693	Adequate reliability
TI (Individual Talents)	0.820	High reliability
HDT (High Level of Self-Esteem)	0.715	Quite Reliable
PTE (Unethical Acts)	0.873	High reliability
<b>Composite Reliability</b>		
KPA (Asset Misuse)	0.968	Very high reliability
TK (Financial Pressure)	0.907	Very high reliability
TP (Job Pressure)	0.851	High reliability
OI (Individual Authority)	0.838	High reliability
SS (Seniority)	0.813	High reliability
TI (Individual Talents)	0.872	High reliability
HDT (High Level of Self-Esteem)	0.824	High reliability
PTE (Unethical Acts)	0.899	High reliability

Source: Processed Data, 2022

**Table 9.** Model Accuracy Measurement

Test/Parameter	Value	Limitation	Conclusion
APC (Average Path Coefficient)	0.196 P<0.001	P<0.05	Model fit
ARS (Average R-Squared)	0.622 P<0.001	P<0.05	Model fit
AARS (Average Adjusted R-squared)	0.610 P<0.001	P<0.05	Model fit
AVIF (Average block VIF)	1.597	Ideal <3.3	Model fit
AFVIF (Average Full Collinearity VIF)	1.560	Ideal <3.3	Model fit
GoF (Tenenhaus GoF)	0.587	Large >0.36	Model fit
SPR (Symson's Paradox Ratio)	1.000	Ideal = 1	Model fit
RSCR (R-squared Contribution Ratio)	1.000	Ideal = 1	Model fit
SSR (Statistical Suppression Ratio)	0.857	Accepted if $\geq 0.7$	Model fit
NLBCDR (Nonlinear Bivariate Causality Direction Ratio)	0.929	Accepted if $\geq 0.7$	Model fit

Source: Test Results, 2022

Table 8 illustrates the composite reliability figures for each variable, which fall between 0.813 and 0.968, indicating a high to very high level of reliability. Additionally, the reliability value for the asset misappropriation variable is 0.963, signifying a very high level of reliability, according to the results of Cronbach's alpha. However, the seniority attitude variable has a reliability value of only 0.693, indicating a moderate level of reliability.

### Structural Model Evaluation (Inner Model)

#### 1. Goodness Fit Model

Assessing the precision of the model is important for forecasting the likelihood of asset misappropriation and for determining if the research model is appropriate. As indicated in Table 9, the results demonstrate that the fit model test has fulfilled the criteria for each indicator.

#### 2. Hypothesis Test Results

The results of testing the hypothesis with WarpPLS 7.0 can be seen on the output path coefficients and p-value menu. The significance level used in this research is 5%. The test results are listed in Table 10.

The results above describe that from the seven tested independent variables, there are five variables with the accepted hypothesis, such as financial pressure, individual authorities,

**Table 10.** Hypothesis Testing Results

Influence	Coeffisien	Significance (p)	Conclusion
Financial Pressure -> fraud	0.114	0.044**	Accepted
Job Pressure -> fraud	0.094	0.081***	Rejected
Individual Authority -> fraud	0.329	<0.001*	Accepted
Attitude of Seniority -> fraud	0.107	0.054***	Rejected
Individual Talent -> fraud	0.175	0.004*	Accepted
High Self-Esteem -> fraud	0.172	0.005*	Accepted
Unethical Acts -> fraud	0.379	<0.001*	Accepted

**Rule of thumb p-value <0.05**

\*significance at 1%, \*\*significance at 5%, \*\*\*significance at 10%

Source: Processed Data, 2022

individual talents, high level of self-esteem, and unethical acts – those are shown by a significance result, which is 1% and 5%. Meanwhile, the other two variables, such as job pressure and seniority, were rejected because their significance value was  $> 5\%$ . But if the confidence level is increased to 10% then the hypothesis will be accepted.

The results of statistical data processing from this research model have shown that the p-value level of ARS and APC is  $< 0.001$  respectively. This value is less than 0.05 which proves that the relationship model of this study has fulfilled the significance test so that this model can be declared feasible to explain the relationship between asset misappropriation tendencies and the independent variables in the model.

### **The Effect of Financial Pressure on Asset Misappropriation Tendency**

Financial pressure refers to the pressure that an individual experiences when their income is insufficient to meet their basic needs. The information presented suggests that the respondents experienced relatively low financial pressure. It is reasonable to assume that with low financial pressure, the motivation to misappropriate assets would also be low. A substantial number of respondents disagreed with the idea of asset misappropriation, such as embezzling company inventories, inflating expenses, and other similar actions.

Table 4 indicates that the financial pressure variable has a small value, with an average of 16.99, a standard deviation of 6.102, and a measurement scale of 8 to 40 with a midpoint of 24. Similarly, the asset misappropriation tendency variable has a small value, with an average of 17.60, a standard deviation of 8.370, and a measurement scale of 11 to 55 with a median value of 33. Since both variables have low values, they are positively related. Therefore, the empirical findings support the hypothesis that financial pressure has a positive effect on the tendency to misappropriate assets.

The findings of this study are following the fraud hexagon theory, which posits that financial pressure is a key motivator for fraudulent activities (Vousinas, 2019). As per this theory, individuals may resort to fraudulent activities when they face financial constraints such as supporting a large family or maintaining an unsustainable lifestyle. This aligns with the fraud hexagon theory, which claims that financial pressure is the underlying cause of fraud (Vousinas, 2019). Hence, individuals who engage in fraudulent activities are not necessarily intrinsically motivated to do so but are rather driven by financial pressure, which compels them to take unethical shortcuts and commit fraud.

Earlier studies have primarily focused on asset misappropriation and have found similar results to the study of Abdullahi & Mansor (2018); Bakri et al. (2017); and Kazemian et al. (2019). For instance, Abdullahi & Mansor (2018) discovered that financial pressure has a positive correlation with workplace fraud, while Bakri et al. (2017) also found that financial pressure can act as a motivator for fraudulent behavior. Additionally, Kazemian et al. (2019) suggest that both financial and work environment pressures originating from personal problems can have a significant and positive effect on asset misappropriation.

### **The Effect of Job Pressure on Asset Misappropriation Tendency**

The present study evaluates non-financial pressure as a substitute for work pressure to examine the personal pressure experienced by individuals or employees. According to the fraud hexagon theory, non-financial pressure in the work setting can originate from both the individual and the organization, and work pressure is often triggered when an employee is unable to cope with job-related issues, which in turn increases the risk of committing fraudulent activities (Vousinas, 2019).

The research focuses primarily on personal work pressure, which pertains to the pressure felt by employees at work, encompassing job responsibilities, the work environment, and the support provided by the organization. The results do not provide empirical evidence in support of the hypothesis that work pressure contributes to the tendency to misappropriate assets. This indicates that employees are not unduly burdened by their work, and can adapt to their job responsibilities,

thereby reducing the likelihood of fraudulent activities. At the 5% level of significance, job pressure does not have a significant positive impact on the tendency to misappropriate assets. However, the results may vary if the level of confidence is set at 10%.

The findings from this study are in line with the results of a study conducted by Said et al. (2017). However, the results differ from the research conducted by Abdullahi & Mansor (2018); Bakri et al. (2017); and Kazemian et al. (2019). The difference in the results of several studies is due to differences in the working environment conditions in each agency or company where employees work. In this study, the working environment conditions were mutually supportive and more familial in nature, as indicated by the respondents' answers in the questionnaire.

#### **The Effect of Individual Authorization (Opportunity) on Asset Misappropriation Tendency**

The hypothesis that high individual authorization leads to a greater opportunity to commit fraud is supported by the results of this study. When an employee has high individual authority, they may be able to engage in fraudulent activities without much oversight from their supervisor or others. The data presented in Table 4 indicates that the average value for individual authorization is very close to the midpoint of the measurement scale, which ranges from a minimum value of 5 to a maximum value of 25, with a median value of 15. Specifically, the empirical average value for individual authorization is 11.54, with a standard deviation of 3.556.

According to Vousinas (2019) in the fraud hexagon theory, the opportunity is a person's ability to commit fraud, the perpetrator believes that he can commit fraudulent acts without being detected and the opportunity must be visible to the perpetrator, which means that the opportunity is not implicitly real but can be felt by the offender by paying attention to the surrounding environment. Weaknesses in internal control that occur are giving excessive authority to an employee in carrying out his duties, for example having multiple positions and granting all access to system applications used by the organization. So it is necessary to involve many parties such as direct supervisor supervision and also the company's SPI to be able to reduce and limit individual freedom in planning to commit fraudulent acts. The lower the authority is given to individuals in their work and responsibilities, the lower the tendency for misusing their assets.

The findings of this study align with previous research conducted by Abdullahi & Mansor (2018); Bakri et al. (2017); and Kazemian et al. (2019). Rae & Subramaniam, (2008) measured opportunity through a company's internal control against fraud, and their results supported a link between opportunity and the likelihood of fraud. Similarly, Istifadah & Senjani (2020) found that opportunity has a positive impact on the propensity to commit fraud.

#### **The Effect of Seniority Attitudes (Rationalization) on Asset Misappropriation Tendency**

The findings of this research do not corroborate the hypothesis that seniority attitudes affect the tendency to misuse assets, as the significance value is higher than 0.05 (specifically, it is 0.054). However, if the confidence level is reduced to 10%, the hypothesis would be supported by the data. The partial determination coefficient value for the job pressure variable is only 2.9%, indicating that the relationship between seniority attitudes and the tendency to misappropriate assets is weaker than that of the other four variables.

The descriptive statistics reveal that the seniority attitude variable has an average value of 16.44, with a high standard deviation of 3.066, which is higher than the theoretical measurement scale of 5 to 25 and a median value of 15. This suggests that the respondents generally agree with the idea of seniority. Nevertheless, there is no empirical evidence to support the claim that seniority influences or leads to fraudulent behavior. Therefore, the respondents are likely to possess a good moral character, a sincere desire to help, and are prudent in their approach to work, considering their longer work experience compared to their colleagues.

Previous studies, such as Said et al. (2018) and Hasuti & Wiratno (2020) whereas Bakri et al. (2017), Kazemian et al. (2019), and Koomson et al. (2020) have reported different findings. The difference in results may be attributed to variations in respondents' length of service, which can reflect their level of experience and knowledge of the organization.

The fraud hexagon theory suggests that rationalization plays a role in justifying fraudulent behavior by allowing perpetrators to convince themselves that their actions are acceptable (Vousinas, 2019). However, the present study did not find empirical support for the hypothesis that seniority, which serves as a proxy for rationalization, is related to the tendency to commit fraud. This indicates that seniority may not be an effective measure for understanding the rationalization of fraud perpetrators who create justifications for their actions.

#### **The Effect of Individual Talents (Ability) on Asset Misappropriation Tendency**

The hypothesis that the 'ability' variable represented by individual talent has a significant positive influence on the tendency to misappropriate assets is supported by statistical testing. The significance value is smaller than the determined rule of thumb, which is 0.05. However, the strength of the relationship between the two variables, when measured by the partial determination coefficient, is only 1.4%. This indicates that the correlation between the variables is relatively weak compared to other independent variables with larger coefficient values. The descriptive data shows that the individual talent variable has a high average value of 18.91 and a standard deviation of 3.671, with a measurement scale of 6 to 30 and a midpoint of 18.

According to the fraud hexagon theory, individual abilities are crucial in determining the occurrence of fraud (Vousinas, 2019). When accompanied by financial pressure, opportunity, and rationalization, individuals with high abilities or talents tend to have a greater tendency to commit fraud, such as asset misappropriation. It is believed that individuals with good skills in committing fraudulent acts tend to be more successful. These abilities may manifest in the form of convincing other employees to cooperate or solving customer problems. Hospital management should be aware of the talents and abilities of their employees to prevent them from exploiting weaknesses in the hospital's internal control system.

The findings of this study support the conclusions of previous studies conducted by Kazemian et al., (2019), Istifadah & Senjani, (2020), and Koomson et al., (2020) as well as the empirical research from Abayomi & Abayomi, (2016) that suggests a positive correlation between an individual's ability and their tendency to commit fraud. This indicates that individuals with high abilities in different areas may be more likely to engage in fraudulent activities, but this also requires the presence of pressure, clear opportunities, and strong justification reasons for committing fraud.

#### **The Effect of High Self-Esteem (Ego) on Asset Misappropriation Tendency**

Based on the statistical analysis, the effect of ego, which is measured by high self-esteem, is supported in this study. The statistical significance of this effect is indicated by a p-value of 0.005, which is lower than the standard threshold of 0.05. The strength of the relationship between ego and the tendency for fraudulent actions, as indicated by the partial determination coefficient, is moderate, at 5.9%, in comparison to the other independent variables.

Employees with high self-esteem are more likely to prioritize their ego and achieve their goals by any means, including committing fraud. The data described in Table 4 indicates that the empirical mean value of the variable representing high self-esteem is at the midpoint of the theoretical measurement scale. The average value is 17.94 with a standard deviation of 4.018, while the theoretical measurement scale ranges from 6 to 30, with a median value of 18. This empirical evidence suggests that respondents are willing to do anything to maintain their self-esteem, including engaging in fraudulent behavior.

The selfishness of someone who has confidence and feels capable of carrying out his fraudulent actions can lead to a sense of superiority, namely the emergence of excessive self-confidence that he is safe from accusations and will not be detected for committing fraud, and will not be penalized (Aprilia, 2017). According to the fraud hexagon theory, the ego determines people to commit fraud (Vousinas, 2019). The findings regarding the variable of high self-esteem in this study are under the fraud hexagon theory, the higher the self-esteem possessed by respondents, the higher the risk they have of tending to misappropriate assets to maintain their status. This ego

factor comes from each employee so management must consider the psychology of employees at the time of initial recruitment. Then management must direct to positive activities that do not trigger social inequality among hospital employees.

Measuring ego through high employee self-esteem is not commonly conducted in Indonesia. Previous studies, such as Koomson et al. (2020), have produced similar results to this research, which suggest that ego has an impact on the tendency to commit asset misappropriation.

### **The Effect of Unethical Acts (Collusion) on Asset Misappropriation Tendency**

The hypothesis testing indicates that unethical behavior, as a manifestation of collusion, has a significant positive impact on asset misappropriation behavior. This means that the hypothesis is accepted based on the statistical tests conducted, where the significance value of  $<0.001$  is smaller than the predetermined rule of thumb of 0.05. Furthermore, the partial determination coefficient value shows a strong relationship between the two variables, which is 24.1%. This implies that the influence of collusion on asset misappropriation is comparatively stronger than other independent variables, including high self-esteem, seniority attitude, individual talent, individual authority, financial pressure, and job pressure, which have smaller coefficient values.

The answers of respondents who prefer to disagree with unethical actions show that employees still have good morals, have good character, namely they still adhere to the norms of decency and obey the rules. Respondents' answers also indicated that respondents understood the ethical and unethical actions they took.

The low value of the unethical behavior variable and the tendency towards asset misappropriation variable is reasonable because they have a positive relationship. The strength of their relationship is strong based on the partial determination coefficient. These findings support the fraud hexagon theory, which states that the lower the unethical behavior, the lower the tendency for asset misappropriation. However, collusion between employees or with external parties can make fraud more difficult to detect, and this problem is increasing in prevalence. Collusion can damage an organization because a group of perpetrators of fraud who have collaborated in the fraud are always trying to place people of their choosing to be placed in every part of the organization. If this collusive action is already underway, then honest employees can also be influenced to become dishonest. This is because perpetrators of fraud often force other employees to commit or hide fraudulent acts (Vousinas, 2019). Therefore, when recruiting employees, hospital management should prefer employees who have good behavior and are honest.

The influence of the collusion variable which is proxied by unethical behavior towards fraud which focuses on the tendency to misappropriate assets is still relatively rare. However, there are results of previous research that examines things similar to this research, namely research by Rahma (2018) which proves that unethical behavior has a positive influence on fraud. Furthermore, there are study results from Desviana et al., (2020) that prove that unethical behavior has a positive influence on a person's tendency to commit fraud in managing village funds.

## **CONCLUSIONS**

This study aims to gather empirical evidence and analyze the factors that contribute to employee asset misappropriation based on the fraud hexagon theory. The results of hypothesis testing indicate that several factors of the fraud hexagon theory are significant determinants of asset misappropriation by employees. These factors include financial pressure, opportunity, ability, ego, and collusion, while non-financial pressure and rationalization do not have an impact on asset misappropriation. Therefore, hospital management should assess the adequacy of employee income to meet their needs and periodically review policies and regulations related to granting work authority. Direct leadership should supervise these policies, and the hospital's internal control unit should also monitor them. During the recruitment process, hospital management

should prioritize individuals with positive talents, honesty, and good behavior.

The findings of this study provide two points of contribution. First of all theoretical contribution, forensic accounting researchers who are interested in the topic of asset misappropriation need to consider the psychological characteristics of employees, especially their egos. Second is practical contributions, the findings can be applied by XYZ Hospital to provide an overview to hospital management regarding the need to carefully review the factors that encourage asset misappropriation in the workplace so that they can be used as a basic guideline in formulating strategies for prevention of asset misappropriation that are right on target. For example, by increasing employee income it can provide a sense of comfort at work and not make employees take actions that lead to fraudulent acts.

This research has limitations that require improvement to be able to help plan further research. This research is limited to several variables and indicators, for example, the indicators used in the variable work pressure are more of pressure that is internal to employees or personal. For further research, the emphasis can be on corporate pressure or pressure from external parties.

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