

“An empirical analysis of asset misappropriation fraud during the COVID-19 crisis”

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AN EMPIRICAL ANALYSIS OF ASSET MISAPPROPRIATION FRAUD DURING THE COVID-19 CRISIS

Abstract

The objective of this paper is to examine asset misappropriation fraud during the COVID-19 pandemic. The study examines the impact of four elements of fraud risk factors and Islamic religiosity on the propensity for fraud among employees who manage assets in government organizations. Data collection involved a questionnaire distributed to 210 employees responsible for asset management within the government organization in Indonesia. Partial least squares-structural equation modeling (PLS-SEM) was utilized as a statistical method. The test results show that the theoretical model is supported by empirical data. The study revealed that pressure, opportunity, rationalization, and capability positively influence asset misappropriation with a coefficient of 0.250, 0.134, 0.211, and 0.288, respectively. These results indicate that the higher the four fraud risks, the higher the possibility of asset misappropriation in the organization. On the other hand, Islamic religiosity exhibits a negative association with asset misappropriation with a coefficient of -0.113 . These results indicate that religiosity plays an important role as a preventive factor in reducing the occurrence of asset misappropriation by employees. This study contributes to limited literature exploring factors influencing occupational fraud, specifically asset misappropriation during the COVID-19 crisis. The study recommends managerial strategies to mitigate asset misappropriation within the framework of the fraud diamond model.

Keywords

asset misappropriation, pressure, opportunity, rationalization, capability, Islamic religiosity, COVID-19, fraud

JEL Classification

M41, M42, G30, G34

INTRODUCTION

According to the 2022 Occupational Fraud Report by the ACFE (2022), there were 2,110 reported cases of occupational fraud in 133 countries, leading to losses totaling \$3.6 billion. Notably, the frequency of these cases has been on the rise in recent years, posing substantial financial risks and potentially crippling consequences for affected businesses. Conversely, crises such as the COVID-19 pandemic have amplified the fraud risks. The pandemic disrupted traditional work patterns, supply chains, employee benefits, compensation structures, and staff levels. Such disruptions, as indicated by a survey conducted by Ernst and Young (2020), increased the likelihood of unethical conduct within organizations. Evidently, occupational fraud surged during 2020 and was expected to continue rising in 2021 due to the substantial business disruptions caused by the COVID-19 crisis. The pandemic-induced challenges faced by employees – such as heightened workloads, reduced compensation, spousal unemployment, and caregiving responsibilities for sick family members – provided rationalizations for engaging in fraudulent activities. Moreover, the shift to remote work disrupted regular procedures, making it easier for fraudsters to falsify invoices, forge signatures, manipulate accounting records, weaken internal controls, and exploit opportunities for fraud, particularly in asset misappropriation schemes.

Despite the prominence of occupational fraud, particularly asset misappropriation, during the COVID-19 pandemic, empirical research examining this phenomenon remains limited. It is crucial to conduct empirical research on asset misappropriation in crises to develop effective anti-fraud strategies. This study addresses the gaps in existing management research by investigating asset misappropriation during the COVID-19 crisis, specifically focusing on government organizations in developing countries. Previous studies on employee fraud primarily focused on developed countries, leaving a dearth of investigation into fraud elements in developing nations.

This analysis is crucial to the business study by scrutinizing asset misappropriation in governmental organizations amid the COVID-19 pandemic and integrating Islamic religiosity as a determinant within the fraud diamond theory. Religiosity gained significance during the pandemic, with empirical evidence suggesting its global rise and potential long-term socio-economic consequences. However, management and accounting research's exploration of religiosity remains limited, particularly concerning Islamic religiosity's relationship with fraud. Limited empirical evidence on the influence of Islamic religiosity on fraud necessitates further research, especially investigating its role in mitigating asset misappropriation during the COVID-19 pandemic.

1. LITERATURE REVIEW

The problem of fraud in various entities has become a focus for professional organizations such as the Association of Certified Fraud Examiners (ACFE), academic theory development, and empirical research in various countries. ACFE (2022) defines occupational fraud as “the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets.” ACFE has formulated a fraud scheme known as the fraud tree, which is classified into three types: (1) asset misappropriation, (2) financial statement fraud, and (3) corruption. Within asset misappropriation, ACFE delineates two primary types: misappropriation of cash and misappropriation involving inventory and other assets. Based on these classifications, five distinct misappropriation schemes have been identified: (1) theft of cash on hand; (2) theft of cash receipts through skimming or cash larceny; (3) fraudulent disbursement encompassing billing, payroll, or expense reimbursement schemes; (4) tampering with checks and payments, including disbursement registers; and (5) misuse or larceny of assets (ACFE, 2022).

Employee motivation to commit fraud has been elucidated through various theoretical frameworks. The fraud triangle theory, pioneered by Cressey (1953), posits three key elements or risk factors that may drive an individual to engage in fraud: (1) pressure, (2) opportunity, and (3) rationaliza-

tion. Building upon the fraud triangle, Wolfe and Hermanson (2004) augmented the theory by introducing a fourth fraud risk factor – the perpetrator’s capability – thereby formulating what is known as the fraud diamond theory. Capability refers to an individual’s role that furnishes the ability to exploit opportunities for committing fraud.

Pressure, a stimulus or motivation to commit fraud, particularly asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Vousinas, 2019; Abayomi, 2016; Albrecht et al., 2015), often arises when employees face financial or non-financial stressors they are unwilling to share (Koomson et al., 2020). Financial strain arising from living beyond one’s means or large loan commitments can incentivize occupational fraud (Kazemian et al., 2019; Vousinas, 2019; Hidajat, 2020; Saluja et al., 2022; Ratmono & Frendy, 2022; Mandal & Amilan, 2023; Cheliatsidou et al., 2023; Abdul Rahman et al., 2018). Internally, pressure may stem from an organization’s demands to meet performance targets. Empirical evidence indicates pressure as a catalyst for asset misappropriation (ACFE, 2020, 2022; Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020; Awang et al., 2019; Cai et al., 2019).

During crises like the COVID-19 pandemic, business downturns, and cost-cutting pressures significantly escalate the potential for fraudulent acts. Reduced employee payments or job cuts might push individuals to commit occupational fraud to manage personal financial crises, covering living

expenses or mortgage payments (Deloitte, 2020; Ernst and Young, 2020; PwC, 2020). This aligns with the fraud diamond theory, suggesting that pressure positively affects asset misappropriation (Kazemian et al., 2019; Halabi et al., 2019; Hidajat, 2020; Ismail et al., 2015).

An opportunity provides the means for an individual within an organization to engage in fraud (Saluja et al., 2022; Mandal & Amilan, 2023; Owusu et al., 2022). Mere pressure on employees is not adequate for fraud; opportunities stemming from internal control vulnerabilities must align for fraud to occur. These vulnerabilities can include unclear separation of duties, inadequate internal checks, weak supervision, flawed standard operating procedures, insufficient training, ineffective surveillance, lack of prosecution, inefficient anti-fraud strategies, delayed transaction recordings, and unsecured cash boxes (Said et al., 2018a; Said et al., 2018b; Kazemian et al., 2019; Koomson et al., 2020; Ratmono & Frendy, 2022). Empirical evidence links opportunity as a factor leading to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020; Triantoro et al., 2020).

The COVID-19 era ushered in opportunities for occupational fraud, including asset misappropriation. Layoffs spread remaining employees thin, making it challenging to enforce robust internal control procedures like supervisory review and duty segregation (Deloitte, 2020; PwC, 2020). Additionally, management diverted attention from fraud prevention efforts to recover lost sales or focus on cost containment. Deloitte (2020) observed an increase in opportunities for occupational fraud during the pandemic due to altered business models and executive focus shifting to operational measures instead of compliance and fraud prevention. Temporary staff reallocations might have understaffed prevention functions (Deloitte, 2020). Moreover, ongoing investigations, such as surprise audits, were halted due to resource constraints and shifting priorities. These conditions increased vulnerabilities in internal controls during the COVID-19 pandemic, elevating the risk of fraud. There are various forms of asset misappropriation during COVID-19, including cash theft, larceny (e.g., warehouse theft), misuse or

theft of data (e.g., copying sensitive information by departing employees), and unauthorized invoice payments (Deloitte, 2020).

Rationalization stands as the third driving force behind fraud. It refers to the process of justifying actions conflicting with personal beliefs (Wells, 2001). Perpetrators of fraud engage in rationalization to normalize and morally justify their actions, often believing they have no alternative (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020; Saluja et al., 2022; Ratmono & Frendy, 2022; Mandal & Amilan, 2023; Cheliatsidou et al., 2023; Stulz & Williamson, 2003).

Rationalizations in asset misappropriation contexts include phrases like “I am only borrowing the money,” “Nobody will get hurt,” “I deserve more,” “It is for a good purpose,” “We will fix the books once we overcome this financial difficulty,” and “Something has to be sacrificed, either my integrity or my reputation” (Albrecht et al., 2015; Said et al., 2018a). Some perpetrators believe their actions are justified due to insufficient salaries (Kazemian et al., 2019). Rationalization contributes to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020). The COVID-19 crisis intensified rationalization among fraud perpetrators. For instance, employees experiencing financial hardships due to the unemployment of spouses or income disruptions during the pandemic might rationalize stealing and reselling property to cover personal bills like mortgages (Deloitte, 2020). Rationalization contributes to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020; Wijayanti et al., 2024).

Employees engage in asset misappropriation when they have the capability to comprehend and exploit the internal control system, evading detection (Wolfe & Hermanson, 2004). This capability allows fraud perpetrators to act confidently, believing they will not be apprehended, thereby avoiding stress post-misappropriation (Albrecht et al., 2015; Koomson et al., 2020). Asset misappropriation is often facilitated when individuals in certain positions have access to company resources (Koomson et al., 2020).

Capability serves as a determinant for employee asset misappropriation (Said et al., 2018a; Kazemian et al., 2019; Koomson et al., 2020).

Religiosity, from an Islamic perspective, is defined as the consciousness of God (Fariza & Salahuddin, 2015). In this context, Islam serves as a framework or pillar shaping the behavior of its followers (Jamal, 2003; Ismail et al., 2015; Mursid, 2024). As highlighted by Said et al. (2018b), religiosity is a belief system that prevents individuals from engaging in disgraceful acts. This is measured through indicators such as belief in the existence of Allah SWT, adherence to the Sunnah of the Prophet Muhammad SAW, regular Quran reading, feeling a sense of unease when prayers are missed, belief in the last day, adherence to Sunnah fasting, and consistent practice of sadaqah.

Muslims may demonstrate more religious behavior than adherents of other religions for several reasons. Firstly, Islam mandates its followers to pray five times daily and emphasizes regular engagement with religious texts like the Quran. The obligation to pray and Quranic teachings underscore the significance of honesty in Islam and prohibit unethical and fraudulent acts (Said et al., 2018b). Secondly, according to the six waves of the World Values Survey (WVS) and empirical research, Muslims tend to exhibit stronger religious tendencies (Kanagaretnam et al., 2015; Chen et al., 2016; Halabi et al., 2019). Islam encourages wholehearted belief in reli-

gious teachings as a guiding principle in this life and the afterlife. Religiosity correlates with a person's belief in Allah/God, demonstrating their religious devotion and enthusiasm (Salleh, 2012; Ismail et al., 2015).

Multiple research studies highlight the role of religion in influencing human behavior (Said et al., 2018a; Smith et al., 2003; Nahar, 2019; Samad et al., 2022; Surya & Rahajeng, 2023; Wijayanti et al., 2024; Dyreng et al., 2012; Hilary & Hui, 2009). Empirical evidence gathered by Purnamasari and Amaliah (2015) demonstrates that organizational religiosity can make fraud prevention easier in the workplace. Previous studies consistently indicate a negative relationship between religiosity and the inclination to commit fraud (Smith et al., 2003; Said et al., 2017; Said et al., 2018a; Nahar, 2019; Baatwah et al., 2020; Wijayanti et al., 2024; Istifadah & Senjani, 2020; Jamal, 2003; McGuire et al., 2012; Mursid, 2024).

Based on the literature review, four fraud risk factors can increase the tendency of asset misappropriation. On the contrary, the literature shows that Islamic religiosity is negatively related to fraud.

This study aims to examine the impact of four elements of fraud risk based on the fraud diamond theory and Islamic religiosity on the propensity for asset misappropriation among employees amid the COVID-19 pandemic. Based on the literature review, the following hypotheses are proposed:

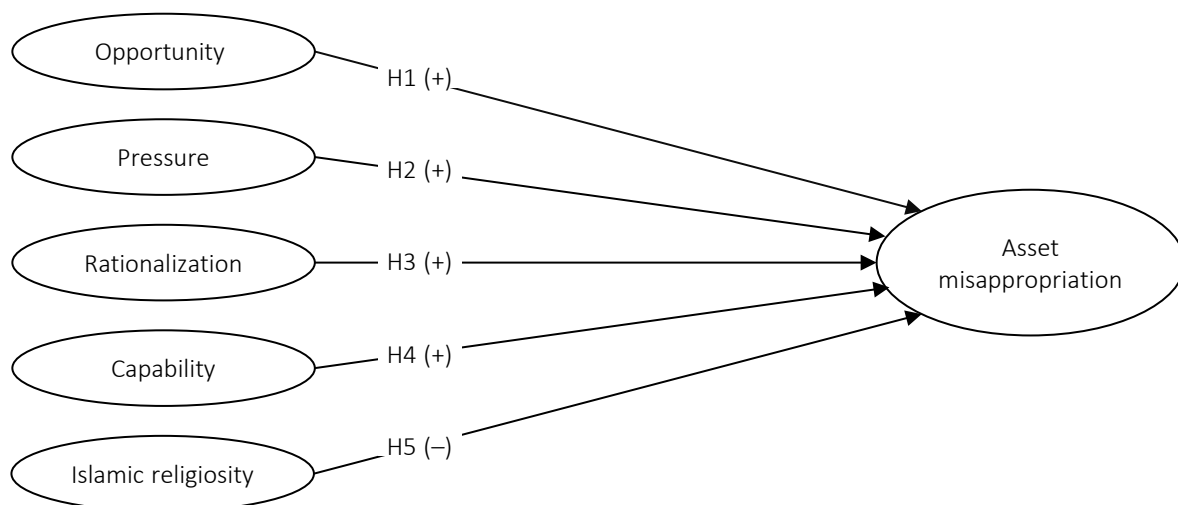


Figure 1. Research model

- H1: Pressure positively affects asset misappropriation.*
- H2: Opportunity positively affects asset misappropriation.*
- H3: Rationalization positively affects asset misappropriation.*
- H4: Capability positively affects asset misappropriation.*
- H5: Islamic religiosity negatively affects asset misappropriation.*

Figure 1 illustrates the research model, portraying latent variables or endogenous constructs as the intention to misappropriate assets among employees. Meanwhile, the exogenous latent variables encompass pressure, opportunity, rationalization, capability, and Islamic religiosity.

2. METHOD

The study population comprises management personnel responsible for regional assets and property within the Central Java Provincial Government. Asset managers were specifically selected due to their direct authority and responsibilities in government asset management. The sampling technique employed was purposive, targeting asset managers who are Muslim employees of the Regional Government of Central Java Province. Within these criteria, a total of 210 eligible employees were identified. Data collection occurred through online questionnaire surveys conducted during the COVID-19 pandemic. This method aligns with prior research examining occupational fraud (ACFE, 2022; Said et al., 2018b; Kazemian et al., 2019; Koomson et al., 2020; Said et al., 2017; Baatwah et al., 2020).

The results of the questionnaire survey indicate that all 210 targeted respondents meeting the criteria returned fully completed questionnaires, resulting in a 100% response rate. Therefore, non-response bias did not pose a concern. Table 1 displays the demographic profile of the respondents. The majority of employees are male, aged 31-50 years, have a bachelor's degree, and have 1-20 years of work experience.

Table 1. Respondent profile

Item	Category	Number	Percentage
Gender	Male	152	72%
	Female	58	28%
Age (years)	24-30	32	15%
	31-40	79	38%
	41-50	72	34%
	51-60	27	13%
Educational background	Junior high school	7	3%
	Senior high school	70	33%
	Diploma	45	21%
	Undergraduate	75	36%
	Master	13	6%
	Doctoral	0	0%
Length of tenure (years)	1-5	52	25%
	6-10	42	20%
	11-15	37	18%
	16-20	38	18%
	21-25	21	10%
	26-30	9	4%
	31-35	11	5%

All variables were assessed using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The variable of asset misappropriation was gauged through five indicators drawn from Koomson et al. (2020), Kazemian et al. (2019), and Said et al. (2018a). Pressure, opportunity, rationalization, and capability variables were evaluated using 5, 4, 4, and 4 indicators, respectively, following the studies by Koomson et al. (2020), Kazemian et al. (2019), and Said et al. (2018b). Islamic religiosity was measured using five indicators derived from Said et al. (2018b) and Said et al. (2018a). Appendix A presents the survey questionnaire.

The data analysis employed the partial least squares (PLS-SEM) method within the structural equation model framework. Warp PLS 8.0 was the software utilized for this analysis. PLS is a method employed for SEM, particularly suitable for examining relationships among latent variables with multiple indicators (Hair et al., 2022; Nitzl, 2016; Kock, 2020). PLS facilitates simultaneous hypothesis testing (Nitzl, 2016; Hair et al., 2022; Kock, 2020).

3. RESULTS

The first step in the PLS-SEM analysis involves assessing the measurement model to ensure the constructs' reliability and validity align with pre-defined criteria (Hair et al., 2022; Kock, 2020).

During the initial evaluation, one indicator for opportunities exhibited a loading factor of 0.524, falling below the 0.70 criterion and resulting in an average variance extracted (AVE) of 0.487, below the required 0.50 threshold. Consequently, the opportunity indicator (O1) was excluded. The subsequent phase involved reassessing the measurement model, the outcomes of which are detailed in Table 2. Table 2 illustrates that the constructs' reliability is affirmed, typically exceeding 0.60-0.70 (Hair et al., 2022; Kock, 2020). Convergent validity is validated, supported by all AVE values surpassing 0.50. Moreover, the factor loadings for all indicators meet the convergent validity criteria, as depicted in the factor loading range column for all constructs, each surpassing 0.70.

The assessment of discriminant validity was conducted utilizing the Fornell-Larcker approach, which involves comparing the square root of AVE with the correlation between constructs (Nitzl, 2016; Hair et al., 2022; Kock, 2020). As depicted in Table 3, the AVE square root ex-

ceeds the correlation between latent/construct variables, meeting the criteria (Hair et al., 2022; Kock, 2020; Nitzl, 2016).

Hair et al. (2022) suggest utilizing the heterotrait-monotrait (HTMT) ratio, which involves the ratio of the between-trait correlations to the within-trait correlations, to address the limitations of the Fornell-Larcker approach. Table 4 illustrates the outcomes of the discriminant validity test using the HTMT ratio, demonstrating that all variables are below 0.90 and significantly below a p-value of less than 0.001. This signifies that the criteria for discriminant validity have been fulfilled (Hair et al., 2022; Kock, 2020).

Additionally, the outcomes derived from the PLS-SEM structural model serve as the foundation for hypotheses testing. Figure 2 exhibits the outcomes of the hypotheses testing, specifically showcasing the beta effect, probability value, and coefficient for determining R2 as per the WarpPLS 8.0 software output.

Table 2. Reliability and validity

Variables	Composite Reliability	Cronbach's Alpha	AVE	Factor Loading Range
Pressure	0.892	0.863	0.625	0.766-0.849
Opportunity	0.737	0.764	0.506	0.703-0.744
Rationalization	0.936	0.910	0.786	0.849-0.921
Capability	0.971	0.959	0.893	0.865-0.974
Islamic religiosity	0.881	0.848	0.599	0.637-0.827
Asset misappropriation	0.963	0.952	0.841	0.830-0.949

Table 3. Discriminant validity: Fornell-Larcker

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset misappropriation
Pressure	(0.791)	0.012	0.034	0.060	-0.122	0.219
Opportunity	0.012	(0.711)	0.029	0.118	-0.064	0.193
Rationalization	0.034	0.029	(0.887)	0.059	0.089	0.235
Capability	0.060	0.118	0.059	(0.945)	-0.145	0.338
Religiosity	-0.122	-0.064	0.089	-0.145	(0.774)	-0.172
Asset misappropriation	0.219	0.193	0.235	0.338	-0.172	(0.917)

Table 4. Discriminant validity: HTMT ratio

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset misappropriation	p-value
Pressure							<0.001
Opportunity	0.176						<0.001
Rationalization	0.090	0.053					<0.001
Capability	0.083	0.144	0.065				<0.001
Religiosity	0.138	0.119	0.129	0.178			<0.001
Asset misappropriation	0.226	0.195	0.246	0.350	0.156		<0.001

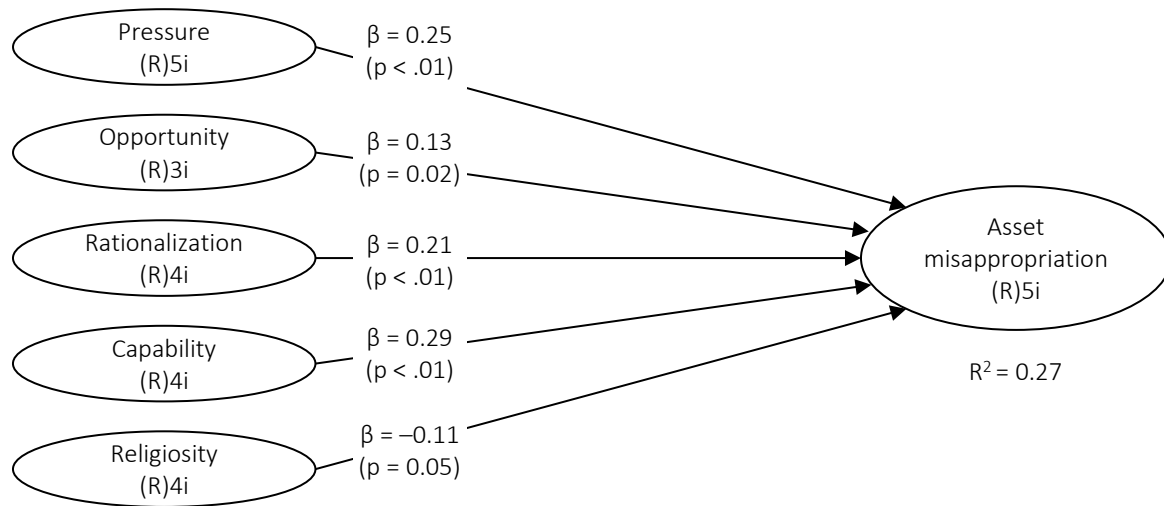


Figure 2. Structural model

Table 5. Path coefficients and p-values

Structural/hypothesized paths	Coefficient	p-value	Conclusion
Pressure → Asset misappropriation	0.250	<0.001	H1 is accepted
Opportunity → Asset misappropriation	0.134	0.023	H2 is accepted
Rationalization → Asset misappropriation	0.211	<0.001	H3 is accepted
Capability → Asset misappropriation	0.288	<0.001	H4 is accepted
Islamic religiosity → Asset misappropriation	-0.113	0.047	H5 is accepted

Table 5 illustrates the outcomes of the PLS-SEM structural model for hypotheses testing. As depicted, H1-H5 are supported.

Table 5 shows that all hypotheses are supported. This empirical evidence supports the fraud diamond theory that pressure, opportunity, rationalization, and capability can increase the possibility of asset misappropriation. Empirical evidence also supports the literature that Islamic religiosity can reduce the possibility of asset misappropriation.

4. DISCUSSION

Pressure demonstrates a positive correlation with asset misappropriation, exhibiting a beta coefficient of 0.251, which is significant ($p < 0.001$), affirming H1. Higher employee pressure correlates with an increased inclination toward asset misappropriation. This aligns with established theories like the fraud triangle and fraud diamond, consistent with prior research conclusions (Said et al., 2018a; Kazemian et al., 2019; Said et al., 2018b; Koomson et al., 2020). The empirical findings emphasize that heightened pressure among employees amplifies asset misuse, indicating a stronger

propensity for deviant behavior, specifically asset misuse, under intensified pressure conditions.

The findings echo the acceptance of H2, indicating that opportunity positively affects asset misappropriation. The PLS-SEM results reveal that a one-standard deviation increase in opportunity leads to a 0.129 rise in asset misappropriation, significant at a 5% alpha level with a p -value of 0.029. These empirical results substantiate the fraud diamond theory, particularly regarding risk factors like opportunities and pressure influencing asset misappropriation within government organizations. The outcomes validate earlier research findings (Said et al., 2017; Said et al., 2018b; Kazemian et al., 2019; Koomson et al., 2020).

Similarly, there is support for H3, with a standardized coefficient of 0.211, signifying that rationalization positively affects asset misappropriation ($p < 0.001$). These findings align with the fraud diamond theory and previous research (Said et al., 2017; Kazemian et al., 2019; Said et al., 2018b; Koomson et al., 2020). The capability variable exhibits a positive association with asset misappropriation, displaying a coefficient of 0.324, and it is statistically

significant ($p < 0.001$), corroborating H4. These results resonate with Abayomi (2016) and Istifadah and Senjani (2020), illustrating a positive impact of capability on the inclination toward fraud.

Moreover, Islamic religiosity demonstrates a potential reduction in asset misappropriation, indicated by a negative standardized coefficient of -0.12 , significant at a 5% alpha level with a p -value of 0.033 . These findings offer empirical support for H5, suggesting that heightened Islamic religiosity among employees corresponds to a decreased likelihood of involvement in asset misappropriation. This empirical evidence aligns with prior research examining religiosity (Purnamasari & Amaliah, 2015; Said et al., 2017; Said et al., 2018a; Baatwah et al., 2020), indicating lower fraudulent intentions among religiously inclined employees.

This study provides empirical evidence that the COVID-19 pandemic has created pressure, opportunities, rationalization, and capabilities for asset misappropriation. These findings show support for the argument that crises such as the COVID-19 pandemic have increased the risk of fraud by employees, especially asset misappropriation (Deloitte, 2020; Ernst and Young, 2020; PwC, 2020). The findings also provide empirical evidence that supports Bentzen's (2021) argument that religiosity has a significant role during the pandemic with long-term socio-economic consequences. Islamic religiosity plays a significant role in reducing the occurrence of asset misappropriation during pandemic conditions. Future research could examine the role of religiosity in other fraud schemes in conditions of crisis or uncertainty.

CONCLUSION

The purpose of this study was to examine the impact of pressure, opportunity, rationality, capability, and Islamic religiosity on the propensity for asset misappropriation among employees who manage assets in government organizations. This study concludes that pressure contributes to asset misappropriation among employees. During the COVID-19 pandemic, employee pressures increased, amplifying the likelihood of asset misappropriation. According to the fraud diamond theory, opportunities are positively linked to employee asset misappropriation. Weaknesses in internal controls, including unclear duties, inadequate supervision, unauthorized transactions, and poorly documented procedures, contribute to increased asset misappropriation, particularly during crises like the COVID-19 pandemic.

Moreover, rationalization positively correlates with asset misappropriation, indicating that employees justifying fraudulent actions are prone to misusing assets. Capability also shows a positive relationship with asset misappropriation, suggesting that employees in influential positions who comprehend and exploit control system weaknesses are more inclined to commit fraud. The study provides compelling empirical evidence that Islamic religiosity is negatively associated with asset misappropriation. Higher Islamic religiosity among employees corresponds to a reduced inclination toward misusing office assets, engaging in fictitious transactions, and committing financial fraud.

However, this study has limitations stemming from its questionnaire survey methodology, which is susceptible to personal biases and judgment errors. Attempts to mitigate bias included anonymous responses, confidentiality assurances, and the use of reverse questions. Despite these limitations, this study's findings hold significance as one of the first examinations of factors influencing government employees' intentions to commit asset misappropriation during the COVID-19 crisis. It adds to the limited literature on Islamic religiosity as a preventive factor against asset misappropriation among Muslim employees, thereby integrating this factor into the fraud diamond theory with empirical support. Future research could extend these findings using case studies to explore religiosity in preventing fraud across diverse settings beyond government organizations.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Questionnaire

No.	Statements
Pressures	
1	Work pressure often occurs in the office where I work.
2	I have an excessive workload.
3	I find it easy to achieve the targets given by the organization. (RQ)
4	I am fully responsible for supporting my family financially.
5	Expenditures for daily needs sometimes need to be cut to ensure that my salary will be sufficient until the end of the month.
Capability	
1	My ability to complete a variety of tasks makes me excel at work
2	I have good abilities to influence organizational policymaking.
3	I have access to a variety of organizational resources.
4	My ability to solve organizational problems makes me trusted by managers.
Opportunity	
1	In my organization, there is a separation of duties between employees who are responsible for recording and processing asset usage.
2	In my organization, there is work supervision and responsibility assigned to employees.
3	In my organization, there are controls over the use of assets.
4	In my organization, there is no system of record for all organizational assets. (RQ)
Rationalization	
1	The salary I receive is commensurate with the workload provided by the organization. (RQ)
2	I have just borrowed the company's assets and will return them when finished.
3	Using office assets for personal purposes is considered not to harm anyone.
4	Uses organizational assets to help family members who need help.
Islamic Religiosity	
1	I believe that Allah SWT is always present when I work.
2	I believe that the actions I took were in accordance with the "Sunnah" of the Prophet Muhammad SAW.
3	I believe that all good and bad actions are recorded by Angels
4	I believe all my actions will be judged in the afterlife.
5	I feel comfortable when I skip prayers. (RQ)
Asset Misappropriation	
1	Taking some of an organization's resources for personal use is unreasonable. (RQ)
2	Using time during office working hours for personal work is normal.
3	Failure to comply with the asset usage policies that apply in the organization is normal.
4	Borrowing an organization's money for temporary personal use is normal
5	Using office equipment for personal purposes is normal.

Note: RQ means reversed questions.