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ARTIKEL YANG DISUBMIT

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

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Abstract

This study examines 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. Data collection involved a questionnaire survey distributed to 210 employees responsible for asset management within a government organization in Indonesia. Analysis was conducted using the partial least squares-structural equation modeling (PLS-SEM) method. The study reveals that pressure, opportunity, rationalization, and capability positively influence asset misappropriation. Conversely, Islamic religiosity exhibits a negative association with asset misappropriation. Higher Islamic religiosity corresponds to a reduced inclination to engage in asset misappropriation. 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. It underscores the significance of Islamic religiosity as a deterrent against employees' engagement in asset misappropriation. To the best of the author's knowledge, this study is the first to integrate Islamic religiosity into the diamond theory of fraud and test its relevance to Muslim employees' propensity to misappropriate assets amidst the COVID-19 pandemic.

Keywords: Asset misappropriation, pressure, opportunity, rationalization, capability, Islamic religiosity, COVID-19 pandemic.

JEL Classification M41, G30, M42

INTRODUCTION

According to the 2022 Occupational Fraud report by the ACFE, there were 2,110 reported cases of occupational fraud from 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 risk of fraud and economic crime. 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 crisis situations to devise effective anti-fraud strategies. This study addresses the gaps in existing 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 study contributes to the accounting and business literature 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, 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 AND HYPOTHESES

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, categorizing occupational fraud 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) rationalization. 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 position or role within an organization 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), often arises when employees face financial or non-financial stressors they're 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 and Frendy, 2022; Mandal and Amilan, 2023; Cheliatsidou et al., 2023). Internally, pressure may stem from an organization's demands to meet performance targets. Empirical evidence indicates pressure as a catalyst for asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020).

During crises like the COVID-19 pandemic, economic 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). This aligns with the fraud diamond theory, suggesting a positive relationship between pressure and asset misappropriation.

According to the fraud diamond theory, an opportunity provides the means for an individual within an organization to engage in fraud. These opportunities arise from weaknesses within an organization's internal control system, enabling perpetrators to conduct fraud without detection (Saluja et al., 2022; Mandal and Amilan, 2023). Mere pressure on employees isn't 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 and Frendy, 2022). Past research indicates empirical evidence linking opportunity as a factor leading to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson 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). 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. The Deloitte survey identified 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.

According to the fraud diamond theory, rationalization stands as the third driving force behind fraud. It refers to the process of justifying actions conflicting with personal beliefs. 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 and Frendy, 2022; Mandal and Amilan, 2023; Cheliatsidou et al., 2023). Rationalizations in asset misappropriation contexts include phrases like "I am only borrowing the money," "Nobody will get hurt," "I deserve more," "It's for a good purpose," "We'll fix the books once we overcome this financial difficulty," and "Something has to be sacrificed, either my integrity or my reputation" (Albrecht et al., 2013; Said et al., 2018a). Some perpetrators believe their actions are justified due to insufficient salaries (Kazemian et al., 2019). Previous research findings confirm that 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 unemployment among spouses or income disruptions during the pandemic might rationalize stealing and reselling property to cover personal bills like mortgages (Deloitte, 2020). Previous research findings confirm that rationalization contributes to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020).

According to the fraud diamond theory, employees engage in asset misappropriation when they possess the ability to comprehend and exploit the internal control system, evading detection (Wolfe and Hermanson, 2004). This capability allows fraud perpetrators to act confidently, believing they won't be apprehended, thereby avoiding stress post-misappropriation (Albrecht et al., 1995; Koomson et al., 2020). Asset misappropriation is often facilitated when individuals in certain positions have access to company resources (Koomson et al., 2020). Previous empirical research indicates that 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 and the aspiration to strike a balance between worldly needs and adherence to God's commands (Fariza and Salahuddin, 2015). In this context, Islam serves as a framework or pillar shaping the behavior of its followers (Jamal, 2003; Ismail, 2015; Mursid, 2023). Religiosity, as highlighted by Said et al. (2018b), is a belief system that serves as a mechanism preventing 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 religious 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).

Multiple research studies highlight the role of religion in influencing human behavior (Said et al., 2018; Nahar, 2019; Samad et al., 2022; Surya and Rahajeng, 2023; Wijayanti et al., 2023). 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 (Said et al., 2017; Said et al., 2018; Nahar, 2019; Baatwah et al., 2020; Wijayanti et al., 2023).

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:

- H1. There is a positive relationship between pressure and asset misappropriation.*
- H2. There is a positive relationship between opportunity and asset misappropriation.*
- H3. There is a positive relationship between rationalization and asset misappropriation.*
- H4. There is a positive relationship between capability and asset misappropriation.*
- H5. There is a negative relationship between Islamic religiosity and 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.

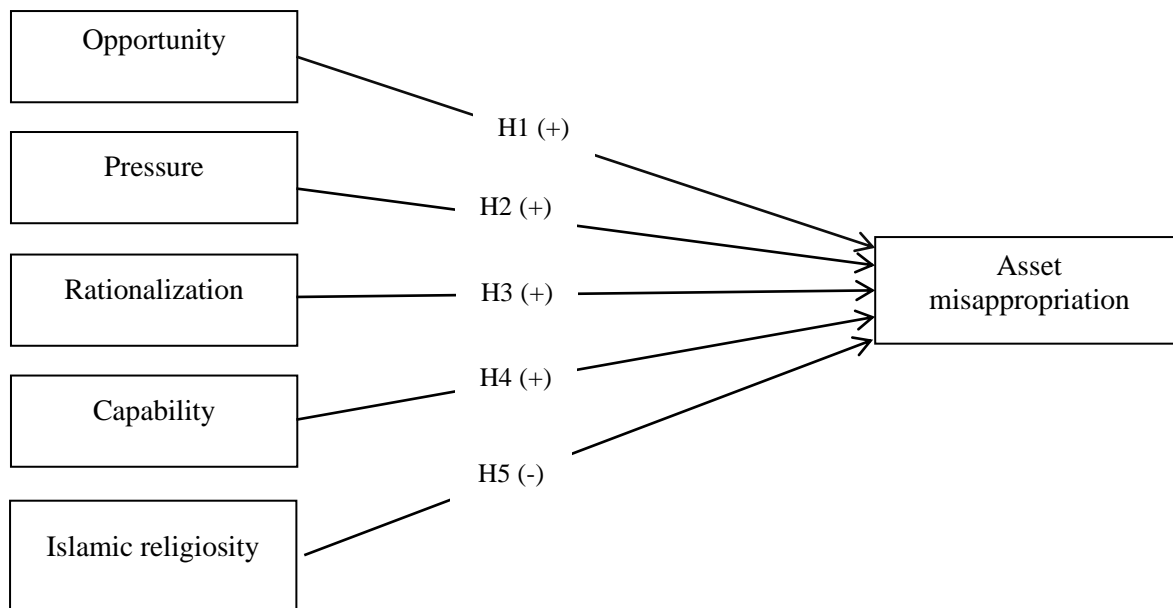


Figure 1. Research model

2. RESEARCH 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., 2020; Baatwah et al., 2020).

All variables in this study 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 the research of Said et al. (2018b) and Said et al. (2018a).

The data analysis in this study 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-SEM is a method employed for structural equation modeling, particularly suitable for examining relationships among latent variables measured by multiple indicators and handling relatively complex models involving both exogenous/independent and endogenous/dependent variables (Hair et al., 2022; Nitzl, 2016; Hair et al., 2019; Kock, 2020). PLS facilitates simultaneous hypothesis testing while minimizing measurement and structural errors (Nitzl, 2016; Hair et al., 2019).

3. RESULTS

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 in this research. Table 1 displays the demographic profile of the respondents.

Table 1. Profile of the Respondents

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%

The first step in the PLS-SEM analysis involves assessing the measurement model to ensure the constructs' reliability and validity align with predefined 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, as both composite reliability and Cronbach's alpha fall within the acceptable range, typically exceeding 0.60-0.70 (Hair et al., 2022; Kock, 2020). Convergent validity is validated, supported by all AVE values surpassing 0.50, indicating acceptable convergent validity. 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.

Table 2. Reliability and validity

Variables	Composite Reliability	Cronbach 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

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 in the diagonal column exceeds the correlation between latent/construct variables (numbers in the same column), meeting the criteria for discriminant validity (Hair et al., 2022; Kock, 2020).

Table 3. Discriminant validity: Fornell-Larcker

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset
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	0.219	0.193	0.235	0.338	-0.172	(0.917)

Hair et al. (2017) 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).

Table 4. Discriminant validity: HTMT Ratio

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset	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	0.226	0.195	0.246	0.350	0.156		<0.001

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

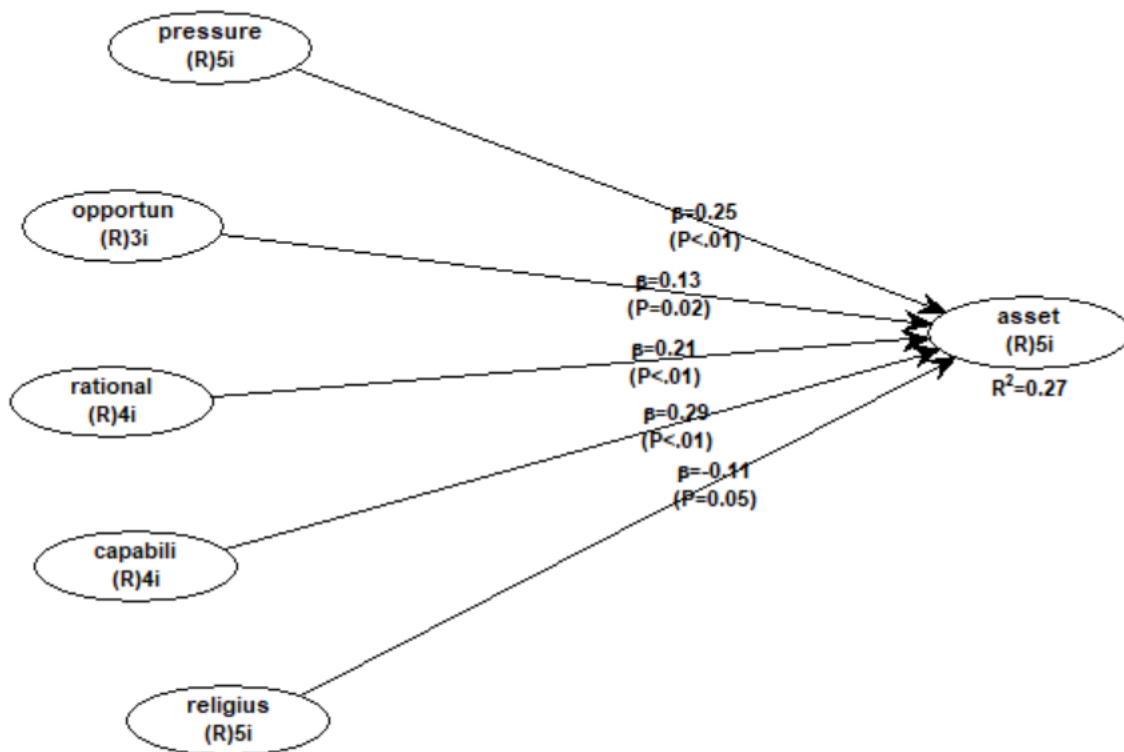


Figure 2. The results of the structural model

Table 5 illustrates the outcomes of the PLS-SEM structural model for hypothesis testing. As depicted, H1-H5 find support.

Table 5. Path coefficients and p-values results

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

4. DISCUSSION

Pressure demonstrates a positive correlation with asset misappropriation, exhibiting a standardized coefficient of 0.251, which is statistically significant ($p < 0.001$), affirming H1. A one-standard deviation increase in pressure corresponds to a 0.251 elevation in accuracy and timelines. Higher employee pressure correlates with an increased inclination towards 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 study's 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 a positive correlation between opportunity and 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 study's outcomes validate earlier research findings (Said et al., 2017; Said et al., 2018; Kazemian et al., 2019; Koomson et al., 2020).

Similarly, there is support for H3, with a standardized coefficient of 0.211, signifying a significant positive relationship between rationalization and 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., 2018; Koomson et al., 2020). The capability variable exhibits a positive association with asset misappropriation, displaying a standardized coefficient of 0.324, and it is statistically significant ($p < 0.001$), corroborating H4. These results resonate with

the research of Abayomi and Abayomi (2016), as well as Istifadah and Senjani (2020), illustrating capability's positive impact 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 and Amaliah 2015; Said et al., 2017; Said et al., 2018; Baatwah et al., 2020), indicating lower fraudulent intentions among religiously inclined employees.

This study provides empirical evidence that in the context of the COVID-19 pandemic it has created pressure, opportunities, rationalization and capabilities which have led to 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 of this study also provide empirical evidence that supports Bentzen's (2021) argument that religiosity has a significant role during the pandemic which has long-term socio-economic consequences. Islamic religiosity plays a significant role in reducing the occurrence of asset misapplication during pandemic conditions.

CONCLUSIONS

This study concludes that pressure significantly correlates with asset misappropriation. Empirical evidence reveals that this pressure originates from personal challenges like inadequate salaries, family responsibilities, and unexpected expenses. Additionally, institutional pressures such as unrealistic targets, excessive workloads, and concerns about bonuses tied to unmet targets contribute 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 negatively associates 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, 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 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, explore religiosity in preventing fraud across diverse settings beyond government organizations, and examine other occupational fraud schemes such as corruption and financial statement fraud.

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Dear Darsono Darsono,
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Please pay special attention to the fact that this is a research paper, which is a final report on the finished original experimental study (the structure must contain the following sections: Abstract, Introduction, Literature review, Method, Results, Discussion, and Conclusion). The (maximum) length of the manuscript should be up to 6,000 words (not including the Abstract, List of references and Appendixes). Please divide your materials into sections correctly. Clearly and specifically formulate the purpose of your study! The title of your article should be specific, indicate the purpose of the study, and correlate with it. You should mention the purpose of your article in the Abstract, at the end of the Literature review, and in the Conclusion sections. The Abstract (its volume is 150-250 words, but it is better to have 200-250 words) should have the following sequence of material - relevance, purpose, methods, results, and conclusions. This is exactly the sequence you should follow. Most sentences in the Abstract should be devoted to your results. Give a quantitative description of your findings. Avoid using unestablished abbreviations in the Abstract and Conclusion sections.

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Data on respondents in the Methods section.

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Dear Katerina Maschenko,
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Thank you for your very valuable advice. We have revised it according to your suggestions. A table of detailed explanations and revisions is attached to this email. We have uploaded the revised manuscript in systems.

Best regards,

Dr. Darsono Darsono
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RESPONSE LETTER

No.	Editor's and Reviewers Concern	Response
1.	It is necessary to adapt the manuscript as much as possible to the subject and requirements of the journal. i.e. management aspects should be the focus of attention.	The focus of the manuscript's attention is appropriate to the subject and requirements of the Problems and Perspective Management Journal. i.e. management aspects management aspects, namely the problem of fraud in asset management in the organization.
2.	Please pay special attention to the fact that this is a research paper, which is a final report on the finished original experimental study (the structure must contain the following sections: Abstract, Introduction, Literature review, Method, Results, Discussion, and Conclusion).	Revisions have been made so that the structure of the manuscript is: Abstract, Introduction, Literature review, Method, Results, Discussion, and Conclusion.
3.	The (maximum) length of the manuscript should be up to 6,000 words (not including the Abstract, List of references and Appendixes).	Length of the manuscript is 3,966 words (not including the Abstract, List of references and Appendixes).
4.	Please divide your materials into sections correctly. Clearly and	Revisions have been made regarding the purpose of the study in the

	specifically formulate the purpose of your study! The title of your article should be specific, indicate the purpose of the study, and correlate with it. You should mention the purpose of your article in the Abstract, at the end of the Literature review, and in the Conclusion sections.	Abstract, at the end of the Literature review, and in the Conclusion sections (in green color).
5.	The Abstract (its volume is 150-250 words, but it is better to have 200-250 words) should have the following sequence of material - relevance, purpose, methods, results, and conclusions. This is exactly the sequence you should follow. Most sentences in the Abstract should be devoted to your results. Give a quantitative description of your findings. Avoid using unestablished abbreviations in the Abstract and Conclusion sections.	Revisions have been made to the abstract section so that the sequence is relevance, purpose, methods, results, and conclusions. It has been revised to provide a quantitative description in the form of regression coefficients. The abstract volume is 233 words.
6.	Keywords should be chosen carefully. You should not give the term, and then also its abbreviation. The number of keywords is limited (about 8-10 words on average). They should not be repeated, just as they should not repeat the exact words from the title of your article. Basically, it should be words, not phrases. They should reflect the main idea and content of your article.	It has been revised so that keywords have been carefully selected consisting of 8 words
7.	Also, clarify JEL Classification codes. Their number is on average 2-4, and they should be placed in order from the main (important) to the secondary ones. They must be two-digital (for example, M12, F23, B18) and reflect content of the paper.	JEL Classification codes are in line with this concern
8.	The Introduction section should be a half-page devoted to the relevance of the research topic and the formulation	The manuscript has fulfilled the editor's suggestions. The scientific problem has been formulated as follows:

	<p>of the SCIENTIFIC problem (which your study seeks to solve) as a whole. There is no need for a literature review here. Do not tell how the research will be conducted, how the article is structured, what is the purpose of your research, and what tasks you will solve.</p>	<p>“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 crisis situations to develop effective anti-fraud strategies. This study addresses the gaps in existing 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 developing countries, leaving a dearth of investigation into fraud elements in developing nations”.</p>
9.	<p>The Literature review should include 30-50 analyzed sources. It should begin with a few introductory sentences. The sequence of the text must have logic (it is not determined by the place of the mentioned work on the shelf). It must be subordinated to the purpose of the study. Do not start each paragraph with a reference to the source. Do not structure the text in such a way that one paragraph is an analysis of one source. The review should be concluded with 2-3 generalizing sentences. Then the purpose of the study should be formulated. After that, formulate hypotheses (right here, all together, and do not insert text between them). Of course, if you foresee them. As for the hypotheses, they should be formulated clearly and unambiguously! They should be clear and not repeat each other.</p>	<p>The literature review consists of 49 analyzed sources. Revisions have been made to the sentences in green so that they meet the editor's suggestions.</p>
10.	<p>Then insert a Method section. Here you should describe the algorithm (procedure) of the study and provide primary data for calculations or</p>	<p>The manuscript meets the editor's recommendations</p>

	<p>indicate the sources of their receipt. This should be done following the logic of the academic presentation of the material.</p>	
11.	<p>Further, the main section of the article is Results section. Here, not only the results obtained (analytics, systematization, calculations...), but explain them, describe the data of tables and figures in text. If the hypotheses were predicted, then provide the results of their verification (accepted/rejected).</p>	<p>The manuscript has been revised (in the green sentence) so that it meets the editor's suggestions.</p>
12.	<p>The Discussion section should include a discussion of the results of your study, a comparison with previous ones, a discussion of why you obtained such results, and an indication of future research prospects.</p>	<p>The manuscript has been revised (in the green sentence) so that it meets the editor's suggestions.</p>
13.	<p>The Conclusion section should have the following logic - indicate the purpose of the study, briefly present the obtained results, and indicate what conclusions should be drawn. Do not cite sources in this section, and do not repeat sentences from the Abstract.</p>	<p>The manuscript has been revised (in the green sentence) so that it meets the editor's suggestions.</p>
14.	<p>Don't start chapters with subsections. Don't break sections into a bunch of small subsections. Variables in formulas must have established designations. They should be explained. Captions for figures and tables should be clear and understandable, even if they are shown in the context of the article. Under the figures and tables, do not indicate that this is your own (author's) development or your own calculations because it should be so a priori. Column and row names in tables should be clear and complete.</p>	<p>The manuscript has been revised so that it meets the editor's suggestions.</p>

	Carefully prepare each sentence, each paragraph, and the entire text of your article.	
15.	What kind of organization are you writing about? Data on respondents in the Methods section.	In the Methods section, the type of organization and respondent data are explained as follows: "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". Table 1 presents data on respondents

ARTIKEL YANG SUDAH DIREVISI

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

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Abstract

The problem of asset misappropriation is relevant and important to study in COVID-19 pandemic because of the increased risk in these conditions. The purpose of this study is to analyze asset misappropriation fraud during the COVID-19 pandemic crisis. The research examines 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 who manage assets in government organizations. Data collection involved a questionnaire survey distributed to 210 employees responsible for asset management within a government organization in Indonesia. Analysis was conducted using the partial least squares-structural equation modeling (PLS-SEM) method. The study reveals that pressure, opportunity, rationalization, and capability positively influence asset misappropriation with a coefficient of 0.250; 0.134; 0.211 and 0.288 respectively. On the other hand, Islamic religiosity exhibits a negative association with asset misappropriation with a coefficient of -0.113. 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. It underscores the significance of Islamic religiosity as a deterrent against employees' engagement in asset misappropriation. To the best of the author's knowledge, this study is the first to integrate Islamic religiosity into the diamond theory of fraud and test its relevance to Muslim employees' propensity to misappropriate assets amidst the COVID-19 pandemic.

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, there were 2,110 reported cases of occupational fraud from 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 risk of fraud and economic crime. 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 crisis situations 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 study contributes to the business literature 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.

5. 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, categorizing occupational fraud 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) rationalization. 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 position or role within an organization 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 and Abayomi, 2016; Albrecht et al., 2015), often arises when employees face financial or non-financial stressors they're 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 and Frendy, 2022; Mandal and 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, economic 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 a positive relationship between pressure and asset misappropriation (Kazemian et al., 2019; Halabi et al., 2019; Hidajat, 2020; Ismail et al., 2015).

According to the fraud diamond theory, an opportunity provides the means for an individual within an organization to engage in fraud. These opportunities arise from weaknesses within an organization's internal control system, enabling perpetrators to conduct fraud without detection (Saluja et al., 2022; Mandal and Amilan, 2023; Owusu et al., 2020). Mere pressure on employees isn't 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 and Frendy, 2022). Past research indicates empirical evidence linking 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. The Deloitte survey identified 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.

According to the fraud diamond theory, 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 and Frendy, 2022; Mandal and Amilan, 2023; Cheliatsidou et al., 2023; Stulz and Williamson, 2003).

Rationalizations in asset misappropriation contexts include phrases like "I am only borrowing the money," "Nobody will get hurt," "I deserve more," "It's for a good purpose," "We'll fix the books once we overcome this financial difficulty," and "Something has to be sacrificed, either my integrity or my reputation" (Albrecht et al., 2013; Said et al., 2018a). Some perpetrators believe their actions are justified due to insufficient salaries (Kazemian et al., 2019). Previous research findings confirm that 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 unemployment among spouses or income disruptions during the pandemic might rationalize stealing and reselling property to cover personal bills like mortgages (Deloitte, 2020). Previous research findings confirm that rationalization contributes to employee asset misappropriation (Said et al., 2017; Kazemian et al., 2019; Koomson et al., 2020; Wijayanti et al., 2023).

According to the fraud diamond theory, employees engage in asset misappropriation when they possess the ability to comprehend and exploit the internal control system, evading detection (Wolfe and Hermanson, 2004). This capability allows fraud perpetrators to act confidently, believing they won't be apprehended, thereby avoiding stress post-misappropriation (Albrecht et al., 1995; Koomson et al., 2020). Asset misappropriation is often facilitated when individuals in certain positions have access to company resources (Koomson et al., 2020). Previous empirical research indicates that 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 and the aspiration to strike a balance between worldly needs and adherence to God's commands (Fariza and Salahuddin, 2015). In this context, Islam serves as a framework or pillar shaping the behavior of its followers (Jamal, 2003; Ismail, 2015; Mursid, 2023). Religiosity, as highlighted by Said et al. (2018b), is a belief system that serves as a mechanism preventing 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 religious 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, 2015).

Multiple research studies highlight the role of religion in influencing human behavior (Said et al., 2018; Nahar, 2019; Samad et al., 2022; Surya and Rahajeng, 2023; Wijayanti et al., 2023; Dyreng et al., 2012; Hilary and 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 (Said et al., 2017; Said et al., 2018; Nahar, 2019; Baatwah et al., 2020; Wijayanti et al., 2023; Istifadah and Senjani, 2020; Jamal, 2003; McGuire et al., 2012; Mursid 2023).

Based on the literature review above, there are four fraud risk factors that can increase the tendency or have a positive relationship with the occurrence 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:

- H1. There is a positive relationship between pressure and asset misappropriation.*
- H2. There is a positive relationship between opportunity and asset misappropriation.*
- H3. There is a positive relationship between rationalization and asset misappropriation.*
- H4. There is a positive relationship between capability and asset misappropriation.*
- H5. There is a negative relationship between Islamic religiosity and 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.

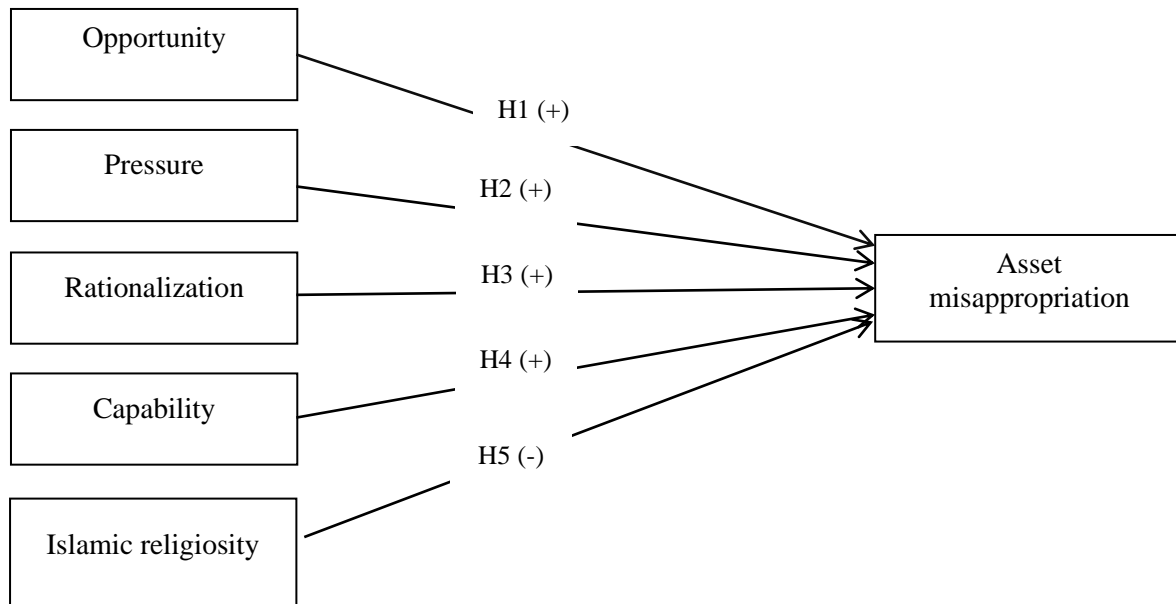


Figure 1. Research model

6. 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., 2020; Baatwah et al., 2020).

All variables in this study 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 the research of Said et al. (2018b) and Said et al. (2018a).

The data analysis in this study 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-SEM is a method employed for structural equation modeling, particularly suitable for examining relationships among latent variables measured by multiple indicators and handling relatively complex models involving both exogenous/independent and endogenous/dependent variables (Hair et al., 2022; Nitzl, 2016; Hair et al., 2019; Kock, 2020). PLS facilitates simultaneous hypothesis testing while minimizing measurement and structural errors (Nitzl, 2016; Hair et al., 2019; Kock, 2020).

7. RESULTS

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 in this research. Table 1 displays the demographic profile of the respondents.

Table 1. Profile of the Respondents

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%

The first step in the PLS-SEM analysis involves assessing the measurement model to ensure the constructs' reliability and validity align with predefined 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, as both composite reliability and Cronbach's alpha fall within the acceptable range, typically exceeding 0.60-0.70 (Hair et al., 2022; Kock, 2020). **Convergent validity is validated, supported by all AVE values surpassing 0.50, indicating acceptable convergent validity. 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.**

Table 2. Reliability and validity

Variables	Composite Reliability	Cronbach 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

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 in the diagonal column exceeds the correlation between latent/construct variables**

(numbers in the same column), meeting the criteria for discriminant validity (Hair et al., 2022; Kock, 2020).

Table 3. Discriminant validity: Fornell-Larcker

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset
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	0.219	0.193	0.235	0.338	-0.172	(0.917)

Hair et al. (2017) 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).

Table 4. Discriminant validity: HTMT Ratio

Variables	Pressure	Opportunity	Rationalization	Capability	Religiosity	Asset	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	0.226	0.195	0.246	0.350	0.156		<0.001

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

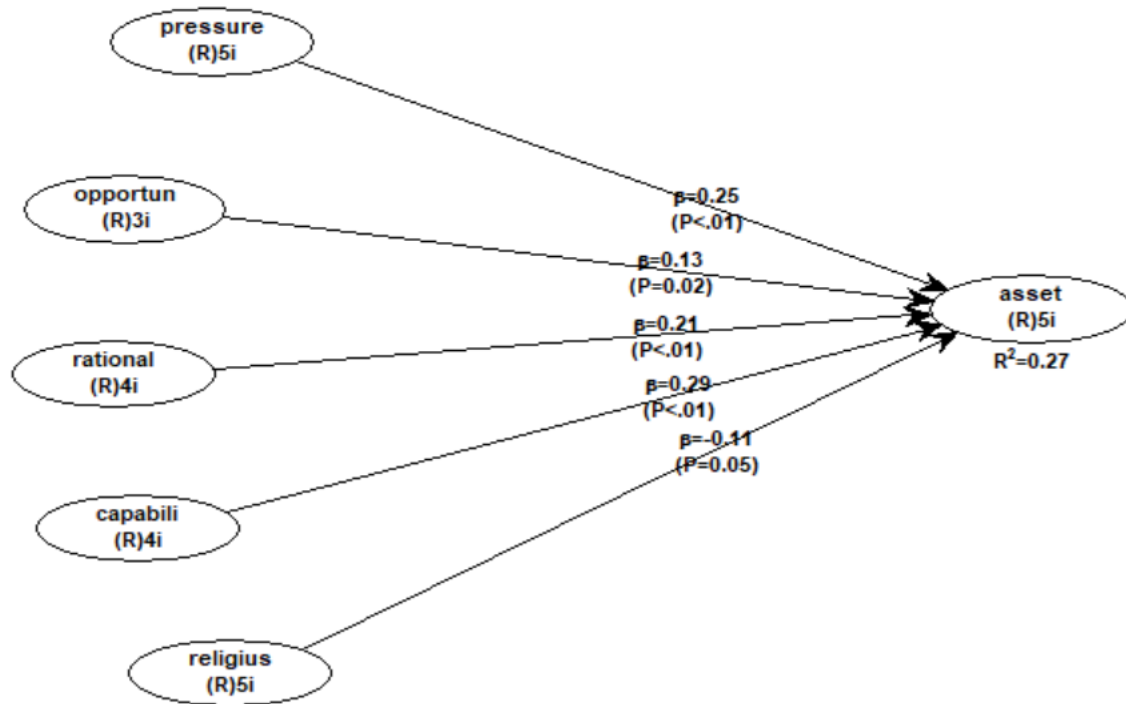


Figure 2. The results of the structural model

Table 5 illustrates the outcomes of the PLS-SEM structural model for hypothesis testing. As depicted, H1-H5 find support.

Table 5. Path coefficients and p-values results

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

The results in table 5 show 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.

8. DISCUSSION

Pressure demonstrates a positive correlation with asset misappropriation, exhibiting a standardized coefficient of 0.251, which is statistically significant ($p < 0.001$), affirming H1. A one-standard deviation increase in pressure corresponds to a 0.251 elevation in accuracy and

timelines. Higher employee pressure correlates with an increased inclination towards 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 study's 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 a positive correlation between opportunity and 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 study's outcomes validate earlier research findings (Said et al., 2017; Said et al., 2018; Kazemian et al., 2019; Koomson et al., 2020).

Similarly, there is support for H3, with a standardized coefficient of 0.211, signifying a significant positive relationship between rationalization and 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., 2018; Koomson et al., 2020). The capability variable exhibits a positive association with asset misappropriation, displaying a standardized coefficient of 0.324, and it is statistically significant ($p < 0.001$), corroborating H4. These results resonate with the research of Abayomi and Abayomi (2016), as well as Istifadah and Senjani (2020), illustrating capability's positive impact 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 and Amaliah 2015; Said et al., 2017; Said et al., 2018; Baatwah et al., 2020), indicating lower fraudulent intentions among religiously inclined employees.

This study provides empirical evidence that in the context of the COVID-19 pandemic it has created pressure, opportunities, rationalization and capabilities which have led to 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 of this study also provide empirical evidence that supports Bentzen's (2021) argument that religiosity has a significant role during the pandemic which has long-term socio-economic consequences. Islamic religiosity plays a significant role in reducing the occurrence of asset misapplication during pandemic conditions. Future research could examine the role of religiosity for other types of fraud such as corruption and financial statement fraud in conditions of crisis or uncertainty.

CONCLUSION

The purpose of this study is 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 significantly correlates with asset misappropriation. Empirical evidence reveals that this pressure originates from personal challenges like inadequate salaries, family responsibilities, and unexpected expenses. Additionally, institutional pressures such as unrealistic targets, excessive workloads, and concerns about bonuses tied to unmet targets contribute 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 negatively associates 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, 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 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, explore religiosity in preventing fraud across diverse settings beyond government organizations, and examine other occupational fraud schemes such as corruption and financial statement fraud.

AUTHOR CONTRIBUTIONS

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To: Darsono

Mon 05/08/2024 20:51

Dear Darsono Darsono,

The manuscript AN EMPIRICAL ANALYSIS OF ASSET MISAPPROPRIATION FRAUD DURING THE COVID-19 CRISIS submitted to Problems and Perspectives in Management is agreed for publication on 05.08.2024

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ACCEPTANCE LETTER

Dear Darsono Darsono,

We are pleased to inform you that your manuscript “An empirical analysis of asset misappropriation fraud during the COVID-19 crisis”, co-authored with Dwi Ratmono, Erlinda Ramadhani Permata Putri, Nur Cahyonowati, Sunseok Lee, has been double blind peer-reviewed and accepted for publication in the international journal “Problems and Perspectives in Management”, which is scheduled to be published in Volume 22, Issue 3, 2024.

With cordial regards,
Katerina Maschenko

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