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Determinants of Bank Employees' Engagement in Asset Misappropriation in Tanzania

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Abstract
This study examines the determinants of employees' engagement in asset misappropriation within the Tanzanian banking sector, drawing on the Fraud Triangle theory's elements of pressure, opportunity, and rationalization. A sample of 148 bank employees was analysed using a linear regression model. The findings revealed that opportunity emerged as the only significant predictor of asset misappropriation, indicating that when opportunities are perceived to be available, the likelihood of fraudulent behaviour increases and vice versa. However, neither pressure nor rationalization proved to have a significant influence. This research's findings have profound implications for banking institutions and regulatory bodies, highlighting the need for strengthened internal controls and vigilant surveillance mechanisms to constrict perceived opportunities for fraud. Moreover, this study enriches the existing literature by underscoring the context-dependent impact of the Fraud Triangle's components on asset misappropriation, particularly within the Tanzanian banking sector. It emphasizes the need for further research into the complexities of fraudulent behaviour and the development of effective strategies to mitigate it, across different sectors and geographic contexts.

Keywords: *Asset Misappropriation, Fraud Triangle Theory, Banking Sector, Internal Controls, Tanzania.*

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Introduction

The fraudulent activities facing the international business landscape continue to present formidable challenges, with notable instances such as the collapse of once-prominent corporations like Enron and WorldCom during the early 2000s. Recent investigations provide an alarming perspective, demonstrating that approximately 50% of companies across the globe have been victims of fraud events (PricewaterhouseCoopers, 2022), leading to international financial losses approximated at a staggering $4.7 trillion (Association of Certified Fraud Examiners, 2022). The African context is particularly noteworthy, as the continent is identified as the second-largest contributor to recorded fraud occurrences, with an alarming 62% of businesses falling prey to at least one fraudulent activity in two years (Association of Certified Fraud Examiners, 2022). In Tanzania, similar patterns emerge, with 57% of business entities encountering at least one fraudulent episode (PricewaterhouseCoopers, 2018).

Among the myriad manifestations of corporate fraud, asset misappropriation holds a conspicuous position as the most prevalent type on a global scale (PricewaterhouseCoopers, 2022). Defined by the unauthorized acquisition or diversion of an organization's assets by its internal personnel, this form of fraud exhibits significant prevalence in Tanzania, where the incidence rate stands at 43% (PricewaterhouseCoopers, 2018). A detailed exploration of the Tanzanian scenario unveils that an overwhelming 83% of such fraudulent schemes are executed by employees within the afflicted organizations (PricewaterhouseCoopers, 2018).

Despite the banking sector's traditional envelopment in comprehensive regulation and oversight, it has not been immune to considerable challenges related to fraud, a phenomenon compounded by its central role in capital collection and intermediation (Dumbrava, Gavriletea & Grigore, 2008). The past century has witnessed a discernible escalation in asset misappropriation within this sector (Association of Certified Fraud Examiners, 2022), a trend that has garnered significant academic and industry attention considering the banking system's pivotal importance in underpinning economic stability (Idolor, 2010; Khanna & Arora, 2009; Owolabi, 2010). Within the Tanzanian banking sector, asset misappropriation is responsible for roughly 10% of all fraud cases reported within the banking domain (PricewaterhouseCoopers, 2018).

Given the critical nature of this subject and the central role of bank employees in these transgressions, an investigation into the underlying motivational factors instigating such fraudulent conduct is of vital importance. Existing literature often draws upon the analytical paradigm of the "fraud triangle" to explain drivers of individuals' fraudulent behaviour, a conceptual framework that outlines three key drivers: opportunity, rationalization, and pressure (Holton, 2009). This theoretical construct, initially articulated by Cressey (1953), serves as a theoretical compass for identifying potential motivations for fraud. By segmenting fraud risk into these three components, investigators can streamline their analytical process, potentially arriving at more actionable conclusions.

However, the body of literature investigating the influence of the fraud triangle components on employee involvement in fraudulent conduct yields mixed results (Homer, 2020), with diverse studies affirming varying aspects of the fraud triangle's explanatory power. While a multitude of research endeavours has probed into the generalized effects of the fraud triangle

on corporate fraud, there persists a noticeable gap in specialized inquiries focusing on asset misappropriation within the banking arena (Kazemian, Said, Nia & Vikilifard, 2019; Avortri & Agbanyo, 2020). In the Tanzanian context, research such as that by Kalovya (2023) corroborates the impact of fraud factors on occupational fraud broadly but does not hone in on the specific dynamics of asset misappropriation within the banking sector.

Consequently, this study seeks to address this gap by examining the relationship between bank employees' perceived pressures, opportunities, and rationalizations, and their influence on asset misappropriation within Tanzania's banking industry. By probing into these drivers, the research not only contributes to the theoretical discourse surrounding fraudulent behaviour but also offers pragmatic insights that may guide the development of robust control mechanisms to mitigate the occurrence of asset misappropriation in banks and other organizational contexts. This investigation ultimately enhances our collective capacity to navigate the complex terrain of corporate fraud, reinforcing the integrity of financial institutions, particularly within emerging economies such as Tanzania.

Literature Review

Fraud, in general, refers to deceptive practices aimed at obtaining an unjust or unlawful gain, frequently financial, by providing incorrect information or withholding relevant data (Albrecht et al., 2012). It is a broad term encompassing a variety of behaviours, such as corruption, fraudulent financial reporting, and asset misappropriation (Albrecht et al, 2012). Asset misappropriation, a particular type of fraud, involves the misuse or theft of a company's resources by an employee or a person entrusted with the management of these assets. This type of fraud can take many forms, from the theft of physical assets, such as inventory or equipment, to the misdirection of funds through fraudulent billing schemes or falsified expense reports. It is a serious issue that can significantly impact a company's financial performance and reputation (Association of Certified Fraud Examiners, 2020). Asset misappropriation not only violates trust but also represents a breach of fiduciary duties, making it an act of both civil and criminal wrongdoing.

The Fraud Triangle theory, as proposed by criminologist Donald Cressey, provides a framework for understanding the factors that may lead to fraudulent behaviour (Cressey, 1953), including asset misappropriation. The theory suggests that three elements—pressure, opportunity, and rationalization—are key predictors of fraudulent behaviour. Pressure refers to the motivation driving an individual towards fraud, such as personal financial difficulties, gambling addictions, or excessive lifestyles (Albrecht et al., 2012). Opportunity, on the other hand, reflects the conditions that make fraud possible, often stemming from weak internal controls or inadequate supervision in the organization (Wolfe & Hermanson, 2004). Lastly, rationalization involves the cognitive process whereby the individual justifies the fraudulent behaviour as acceptable or necessary, often due to perceived injustices or entitlement (Dorminey, Fleming, Kranacher, & Riley, 2012). A thorough discussion on the influence of each predictor on asset misappropriation follows below.

Hasnan, Rahman and Mahenthrian (2008) described pressure, in the context of financial fraud, as external demands to meet certain income targets or personal ambition to achieve specific financial goals. Particularly in asset misappropriation, such pressure could stem from high

expenses, overwhelming debts, or maintaining an unsustainable lifestyle. Salehi, Mansouri, and Pirayesh (2009) emphasized the significant role of financial pressures in prompting bank employees to engage in fraudulent activities, but the nature of these pressures varies based on the individual's role within the bank. Lower-level employees like cashiers are driven more by personal financial pressures, whereas senior management's motivations are more closely tied to organizational considerations (Gersl & Hermanek, 2007).

Building on this, Kazemian et al. (2019) found that pressure significantly influences asset misappropriation among bank employees in Iran, affirming the findings of other studies such as Siahaan, Umar and Purba (2019) as well as Koomson, Owusu, Bekoe and Oquaye (2020). These studies collectively emphasize the role of pressure as a driving factor for asset misappropriation. Therefore, it's hypothesized that: there is a positive significant effect of pressures on bank employees leading to asset misappropriation.

H1: The pressures on bank employees positively affect their involvement in asset misappropriation.

Opportunity for committing fraud often arises due to weaknesses in internal controls (Rae & Subramaniam, 2008). Mohd-Sanusi, Mohamed, Omar and Mohd-Nassir (2015) further elucidate this by highlighting examples of opportunities such as inadequate supervision, poor segregation of duties, weak management, and insufficient system control. Dechow, Sloan, and Sweeney (1996) underscored the relationship between asset misappropriation and internal control weaknesses, suggesting that poor management supervision due to deficient organizational structures could create opportunities for asset misappropriation or earnings manipulation. Echoing this sentiment, Buckhoff (2001) points out that opportunities within an organization are fostered by insufficient controls for monitoring employee behaviour.

A positive correlation between opportunity and asset misappropriation has been validated in multiple empirical studies. For instance, Bakri, Mohamed and Said (2017) concluded that when an individual has the opportunity and can rationalize their behaviour, the likelihood of committing fraud increases. Siahaan et al. (2019) deemed opportunity as a critical aspect of every fraud case, as it serves as a trigger factor. Yusrianti, Ghozali and Yuyetta (2020) identified opportunity as a significant factor influencing fraud; the greater the chance to commit fraud, the higher the likelihood of fraudulent behaviour. Similarly, Kazemian et al. (2019) found that opportunity significantly influenced asset misappropriation in the banking sector in Iran. Thus, there is substantial support for the influence of opportunity on asset misappropriation within the banking sector. Consequently, the hypothesis proposed is:

H2: The existence of opportunity positively affects employees' involvement in asset misappropriation.

Rationalization is a process that individuals use to justify behaviour that might otherwise be incompatible with their personal beliefs (Slezak, 2013). An example of this is when employees commit fraudulent activities, such as asset misappropriation while believing that their actions are in the best interest of their organization. According to Cromwell & Thurman (2003), rationalization comes into play when a bank employee interprets their actions, which could be considered unethical or corrupt, as morally acceptable. Tugas (2012) examined the element of rationalization across companies in different countries and found that top managers who committed fraud often rationalized their behaviour as worth the risk. Zikmund and Janosek

(2014) concluded that fraud can be rationalized in various ways, such as bank employees convincing themselves that they are merely borrowing from the bank or justifying theft due to being underpaid. Nelson, Elliott, and Tarpley (2002) echoed these findings in their study of motivations behind employee fraud in various industries, concluding that rationalization allows perpetrators to continue viewing themselves as honest.

Several empirical studies substantiate the influence of rationalization on asset misappropriation, highlighting a positive correlation between these two aspects. For instance, Heiman-Hoffman, Morgan and Patton (1996) found evidence of rationalization playing a crucial role in asset misappropriation cases. This was further supported by Gichobi & Zani (2014), who observed a similar pattern in their research. More recently, Kazemian et al. (2019) also endorsed the existence of this positive relationship in the Iranian banking industry, adding to the body of literature asserting the significant role rationalization plays in facilitating asset misappropriation. Collectively, these studies underscore the relevance of understanding rationalization as a driving factor in fraudulent behaviour, particularly in the context of asset misappropriation. It is therefore hypothesized that:

H3: Employees' rationalizations positively affect employees' involvement in asset misappropriation.

Methodology

Data to test the study hypotheses was collected from employees of commercial banks operating in Tanzania. Respondents were selected using convenience sampling which involves selecting respondents that were easiest to obtain and with readiness to participate (Saunders et al., 2009). Data was collected using a self-administered questionnaire. The questionnaires included closed-ended questions designed in 7-point Likert scales for each of the study constructs i.e. pressure, opportunities, rationalization and asset misappropriation. A total of 170 questionnaires were distributed to commercial banks employees and 150 were returned. This sample was adequate for regression analysis according to Tabachnick, Fidell and Ullman (2013) who argued that a minimum sample size for multiple regression analysis should be 15 times the number of predictors. Therefore, for a regression model with three independent variables, a minimum sample size of 45 is recommended. However, some researchers suggest that this minimum may still be too small. Green (1991) proposed a more conservative guideline suggesting that the sample size should be 50 + 8m (where m is the number of independent variables) for testing the multiple correlations and 104 + m for testing individual predictors. Therefore, according to Green's rule, for a model with three independent variables, a sample size of 74 would be recommended for testing the multiple correlations and 107 for testing individual predictors.

In determining the content validity, the questionnaires were reviewed by 3 industry experts to determine their relevance towards the objectives of the study where the irrelevant questions were replaced or modified to enhance the validity of data before being distributed to respondents. For example, the question of the age group of the respondents was modified based on the range in age groups while that of the role of respondents in the bank was removed due to changes of the key informants of the study. Also, the statement "I believe nobody will get hurt" under the Rationalization element was removed while those statements of Pressure

and Opportunity elements were rephrased to remove the ownership character of personal pronouns.

The study had three independent variables: pressure, opportunity and rationalization; as well as one dependent variable: asset misappropriation. Pressure and rationalization constructs were measured by the pressure and rationalization scales used by Said, Alam, Karim and Johari (2018). Concerning opportunity construct, the opportunity scales used were borrowed from Kazemian et al. (2019). On the other hand, the dependent variable (asset misappropriation) was measured by the asset misappropriation scales employed by Said et al. (2018) which consist of indicators that highlight possible uses of assets at the workplace constituting asset misappropriation. The relationship between these variables was tested using multiple regression techniques.

Data Analysis and Results

Respondents Profiles

Table 1 presents results on the profiles of the respondents where males and females comprised 53.3% and 46.7% respectively of the whole sample of 150 bank employees. The study sample of about 42.7% largely consisted of respondents between 35 and 50 years. In terms of working experience, a good number of the respondents (approximately 65.3%) have worked with their respective banks for over 5 years which is a good indication that most of the respondents have a considerable amount of working experience.

Table 1: Respondents' Profiles

	Frequency	Per cent
Gender		
Male	80	53.3
Female	70	46.7
Total	150	100.0
Work Experience		
Below 5 years	52	34.7
Between 5-10 years	68	45.3
Above 10 years	30	20.0
Total	150	100.0
Age		
Between 18-34	49	32.7
Between 35-50	64	42.7
Between 51-69	37	24.7
Total	150	100.0

Diagnostic Tests

Before embarking on regression analysis, several diagnostic tests must be fulfilled to ensure the reliability of the measurement scales and to validate the data's suitability for such an analysis. Cronbach's alpha was employed to assess the reliability of the measurement scales. As

suggested by Pallant (2010), a Cronbach's alpha value of 0.70 or above signifies a robust measure of reliability for a construct's measurement scales. In this study, the Cronbach's alpha coefficients for the constructs of asset misappropriation, opportunity, pressure, and rationalization were found to be 0.708, 0.712, 0.742, and 0.702 respectively, thereby indicating satisfactory reliability for each construct's measurement scales.

The assumption of normality was examined through the Normal Probability Plot (P-P) of the Regression Standardised Residuals. The fact that the points on the Normal P-P Plot form a nearly straight diagonal line from the bottom left to the top right suggests minor deviations from normality, thus implying that the residuals are normally distributed. Moreover, the even distribution of the scatter plot points validates the assumptions of homoscedasticity and linearity. Additionally, the independence of residuals was verified through the Durbin-Watson value (Pallant, 2010), which was found to be 1.137, lying within the acceptable range of 0 to 4 (Pallant, 2010).

The existence of outliers was checked through the Cook's Distance value, where, as per Tabachnick et al. (2013), cases with values above 1 may pose potential issues. Here, the maximum Cook's Distance value was 0.084, indicating the absence of outliers. Lastly, multicollinearity was evaluated using tolerance values and the Variance Inflation Factor (VIF) for the independent variables. The tolerance values for the independent variables in this study were .850, .868, and .798, all of which are above the threshold of .10, thereby confirming no violation of the multicollinearity assumption. This was further corroborated by the VIF values of 1.177, 1.152, and 1.253, all of which fall well below the cut-off of 10.

Hypothesis Tests

Multiple regression analysis was conducted to investigate the relationship between asset misappropriation and the predictors: pressure, rationalization, and opportunity. The ANOVA results revealed that the overall model was statistically significant, $F(3, 146) = 25.231$, $p < .001$. Therefore, the null hypothesis that the model explains no variability in the dependent variable, asset misappropriation, can be rejected. The model with predictors: pressure, rationalization, and opportunity; explained approximately 34.1% of the variance in asset misappropriation ($R^2 = .341$, adjusted $R^2 = .328$). The standard error of the estimate was 4.54234, indicating a reasonable level of accuracy in the prediction of asset misappropriation. Therefore, the results indicate that the predictors: pressure, rationalization, and opportunity, contribute significantly to explaining the variability in asset misappropriation. While the model was statistically significant, other factors not included in this model might also influence asset misappropriation. Future research might benefit from identifying and incorporating these additional variables to improve the model's predictive capability.

In evaluating the three hypotheses established for this study, we begin with Hypothesis 1 (H1), which suggested that pressure would have a significant effect on asset misappropriation. The results from the regression analysis did not support this hypothesis. The coefficient for pressure was not statistically significant ($\beta = .019$, $t(146) = .254$, $p = .800$, 95% CI [-.135, .175]), suggesting that pressure, in this context, does not have a meaningful influence on asset misappropriation. It appears that the pressures faced by bank employees, whether personal or organizational, do not directly translate into fraudulent behaviours in this sample.

Hypothesis 2 (H2) postulated that the extent of opportunities would significantly affect asset misappropriation. This hypothesis was strongly supported by the data. The regression coefficient for opportunity was statistically significant ($\beta = .552$, $t(146) = 7.573$, $p < .001$, 95% CI [.290, .495]), indicating that every unit increase in opportunity is associated with a .393 unit increase in asset misappropriation, assuming all other factors remain constant. This finding aligns with previous research suggesting that when employees perceive high opportunities to commit fraud, they are more likely to engage in asset misappropriation.

Hypothesis 3 (H3) posited that rationalization would significantly affect asset misappropriation. However, the regression results failed to support this hypothesis. The coefficient for rationalization was not statistically significant ($\beta = .080$, $t(146) = 1.108$, $p = .270$, 95% CI [-.060, .213]), suggesting that rationalization does not significantly contribute to asset misappropriation in this model. It appears that the individual's process of legitimizing fraudulent behaviour through rationalization does not have a significant impact on the propensity to commit asset misappropriation in this setting.

In conclusion, of the three predictors evaluated, only the presence of opportunity was found to significantly influence asset misappropriation, supporting H2 but leading to the rejection of H1 and H3

Discussion

This study examines the predictors of asset misappropriation in the banking sector in Tanzania, an area of research that had not been explored. Building upon the Fraud Triangle theory, this study assessed three predictors: pressure, opportunity, and rationalization, hypothesizing that each would have a significant influence on asset misappropriation.

The second hypothesis (H2) posited that the existence of opportunity would positively affect asset misappropriation. Opportunity often arises from inadequate internal controls, weak management, or poor supervision (Mohd-Sanusi et al., 2015; Dechow et al., 1996; Buckhoff, 2001), and numerous empirical studies have supported the positive correlation between opportunity and fraud (Bakri et al., 2017; Siahaan et al., 2019; Yusrianti et al., 2020; Kazemian et al., 2019). The results of this study align with these findings, indicating a significant positive effect of opportunity on asset misappropriation in Tanzanian banks. These results suggest the importance of strong internal controls and effective supervision to minimize opportunities for asset misappropriation behaviours.

The first (H1) and the third (H3) hypotheses proposed the existence of pressure and rationalization among bank employees would positively affect asset misappropriation. Despite previous studies in various contexts demonstrating a significant influence of pressure and rationalization on fraudulent behaviour (Heiman-Hoffman et al., 1996; Gichobi & Zani, 2014; Kazemian et al., 2019; Siahaan et al., 2019; Koomson et al., 2020), the findings of this study failed to support these hypotheses. The regression analysis indicated that pressure and rationalization did not have a statistically significant effect on asset misappropriation in the Tanzanian banking sector.

This result, though unexpected, can be explained by the unique context of the Tanzanian banking sector. As noted by Basel Committee on Banking Supervision (2011), the banking

sector globally, and Tanzania is no exception, is characterized by robust internal control systems and surveillance mechanisms, designed to swiftly detect and prevent fraudulent activities, such as asset misappropriation. Specifically, the Central Bank of Tanzania has instituted stringent regulations requiring banking institutions to implement comprehensive risk management systems that include robust internal controls and audits (Bank of Tanzania, 2021). In this tightly regulated and monitored environment, the perceived opportunity for asset misappropriation is likely diminished, reducing the pressure employees might feel to engage in fraudulent activities. Moreover, the presence of effective internal control systems and an organizational culture promoting ethics and integrity could make it harder for employees to rationalize fraudulent behaviours as "undetectable" or "harmless" (Albrecht et al., 2012). The increased perception of risk and decreased opportunity, consequently, might contribute to the lower levels of asset misappropriation in the sector, despite the potential pressures.

Our findings make a novel theoretical contribution to the fraud literature, demonstrating that the weight of the three elements of the Fraud Triangle theory (pressure, opportunity, and rationalization) may vary depending on the specific context. In the Tanzanian banking sector, where robust control mechanisms are in place, opportunity emerges as the most significant predictor of asset misappropriation. This suggests the need for future research to consider the role of contextual factors when examining the predictors of fraud. Moreover, the negligible influence of pressure and rationalization in our study calls for further exploration of other potential predictors of asset misappropriation in the Tanzanian banking sector.

Conclusion

This study examines the predictors of employees' involvement in asset misappropriation in the banking sector in Tanzania. Drawing on the Fraud Triangle theory as the theoretical foundation, the research examined the effect of three principal variables hypothesized to motivate employees' involvement in fraudulent conduct, namely pressure, opportunity, and rationalization. Through empirical investigation, our findings unveiled a distinct pattern of influences, deviating from some conventional assumptions.

Interestingly, solely the opportunity surfaced as a significant predictor of asset misappropriation, leaving pressure and rationalization falling short of establishing any significant influence over the dependent variable within this particular Tanzanian context. This finding sheds light on the paramountcy of understanding industry-specific characteristics and the influence of the unique contextual backdrop when undertaking such investigations into fraudulent behaviours.

The banking sector noted for its stringent internal control systems and robust surveillance mechanisms, especially within the Tanzanian context, likely deters potential fraudsters by constricting perceived opportunities for asset misappropriation. This curtailed perception of opportunity may subsequently alleviate the pressure and, in turn, dilute the incentive for rationalization, possibly explaining why these two constructs failed to surface as significant predictors.

Despite its divergence from prior theoretical assertions, this research contributes a meaningful layer to the existing literature. It underlines the central role that opportunity assumes in catalysing asset misappropriation and emphasizes the crucial function that stringent internal control systems serve in deterring such fraudulent activities. Simultaneously, the research broadens the theoretical horizon by suggesting a context-dependent impact of pressure and rationalization on fraudulent behaviour.

The practical implications of our findings are profound for Tanzania's banking industry and beyond. The revelation that opportunity acts as the main instigator for asset misappropriation underscores the necessity for banks to perpetually bolster their internal control systems. Investment in cutting-edge surveillance technology, regular staff training, and cultivating an organizational culture steeped in ethics should take precedence in banks' strategic planning. Additionally, regular internal audits should become a cornerstone of banks' governance protocols, ensuring compliance, and facilitating early detection of potential fraudulent activities. The Bank of Tanzania (BoT), as the paramount regulatory body, should heed these findings to fortify the country's banking system's stability and integrity. Imposing rigorous regulatory prerequisites regarding internal controls, endorsing regular external audits, and fostering a culture of corporate transparency and ethical conduct within banks, could be strategic initiatives for the BoT to consider.

Nonetheless, acknowledging the study's limitations is imperative. The Tanzanian banking sector-specific context might impede the global generalizability of our findings, thereby prompting future research. Expanding the research scope to incorporate different sectors or banking systems across various geographies would serve to enrich the understanding of the issue in a broader, global context.

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