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DETERMINANTS OF ASSET MISAPPROPRIATION AT THE WORKPLACE: AN APPLICATION OF THE S.C.O.R.E. MODEL

BY

THEODORA ABA ABEKAH KOOMSON

(10493689)

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY (MPHIL) DEGREE IN ACCOUNTING.

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DECLARATION

I, Theodora Aba Abekah Koomson, hereby declare that this work is the result of my research and has not been presented by anyone for any academic award in this or any other university. All references used in this work have been fully acknowledged.

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THEODORA ABA ABEKAH KOOMSON
(10493689)

9th September, 2020
Date

CERTIFICATION

We hereby certify that this thesis was supervised in accordance with the laid down procedures by the University of Ghana.

……..
DR. GODFRED MATTHEW YAW OWUSU

(SUPERVISOR)

9th September, 2020

……..
DATE

……..
DR. RITA AMOAH BEKOE

(SUPERVISOR)

9th September, 2020

……..
DATE

DEDICATION

This thesis is dedicated to my dear parents, Mr. Paul and Mrs. Agnes Koomson, and my lovely sisters Naomi, Getrude and Blessing Koomson for their unflinching support throughout my education. God bless you. Again, to Dr. Godfred Matthew Yaw Owusu, your help and training made this journey much easier.

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LIST OF ABBREVIATIONS

ACFE - Association of Certified Fraud Examiners

AVE - Average Variance Extracted

BoG - Bank of Ghana

CA - Cronbach Alpha

CB-SEM - Co-variance Based Structural Equation Modelling

COSO – Committee of Sponsoring Organizations

CR - Composite Reliability

ECH - Ethics Committee for the Humanities

FDT - Fraud Diamond Theory

FTT - Fraud Triangle Theory

HTMT - Heterotrait- Monotrait

ISA – International Standards of Auditing

KPI - Key Performance Indicator

MICE – Money, Ideology, Coercion, Ego

OLS - Ordinary Least Squares

PLS-SEM - Partial Least square Structural Equation Modelling

PwC - PricewaterhouseCoopers

S.C.O.R.E. – Stimulus, Capability, Opportunity, Rationalization, Ego

SEM - Structural Equation Modelling

VIF - Variance Inflation Factor

ABSTRACT

This thesis investigates the prevalence of asset misappropriation at the workplace and examines the dominant factors that influence individuals to misappropriate assets at the workplace. Relying on the most recent theory on fraud (the S.C.O.R.E. model) as the theoretical basis, the study examines the effect of Pressure, Rationalization, Capability, Opportunity/Strength of Internal Control System and Ego on Asset Misappropriation at the workplace whilst controlling for the effect of Ethical Values. Further, the study ascertaines if the Perceived Strength of Internal Controls moderates favourably the relationship that these factors have with Asset Misappropriation. A total of 883 valid responses from individuals working in various organizations in Ghana, collected by means of a self-administered questionnaire, were used for the analysis. The hypothesized relationships of the study were tested by means of a structural model analysis using the Partial Least Square based Structural Equation Modelling technique. Results from the structural model analysis demonstrate that individuals misappropriate assets at their workplace due to pressures they face, their ability to rationalize their actions as not wrong, their capabilities and their egos. The results, however, indicate that the extent to which an individual will misappropriate asset depends on the person's perception of the strength of internal control mechanisms at the workplace. The findings of the study make significant contributions to the fraud discourse. Theoretically, the study is among the first to provide an empirical support for the applicability of the S.C.O.R.E. model in the fraud literature. Again, the study extends the knowledge on occupational fraud literature by examining an area that has received the least research attention: asset misappropriation. The study, as well, highlights the important role of internal controls in reducing the occurrence of asset misappropriation at the workplace. Besides, whereas most studies on occupational fraud focus on one organization, this study is among a few that investigates the phenomenon asset misappropriation across several sectors. The findings from the study are

beneficial to business owners, managers of firms and policy makers in establishing ways to mitigate the occurrence of asset misappropriation at the workplace. The study highlights the factors that influence individuals to misappropriate assets at the workplace which points out red flags to look out for. To academic researchers, the study makes insightful recommendations on conducting similar studies with different approaches and focuses, to enrich the emerging discourse on asset misappropriation fraud.

CHAPTER ONE

INTRODUCTION

1.0 Background

The world has witnessed the collapse of many giant companies including Enron, WorldCom, Tyco International, Xerox, Carillion and many other corporations. The collapse of these otherwise vibrant companies has not been without one form of scandal or the other. Research into the occurrence of these scandals generally concludes that fraudulent activities of corporate managers and employees remain one of the most underlining reasons for the collapse of businesses globally (Low, Davey, & Hooper, 2008; Tang & Sutarso, 2013). The 2016 Report on Crime Surveys by PricewaterhouseCoopers (PwC) concludes that one of every three organizations surveyed experiences fraud of some sort in both developed and emerging markets (PwC, 2016).

Defined as " an intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage" (ISA, 2009, p. 5), the occurrence of fraudulent activities remains one of the key challenges confronting many business organizations in contemporary times. The effect of fraud is enormous and transcends from financial to non-financial effects. Financially, organizations lose about 5% of their revenues to fraud every year translating to about $7.1 billion from a sample of 2,690 cases reviewed by the Association of Certified Fraud Examiners (ACFE) in their 2018 Report to the Nations (ACFE, 2018). Several other non-financial consequences of fraud including loss of trust in the capital market and the market mechanisms, loss of trust in affected organisations, loss of employee morale, emotional and psychological distress to innocent victims and an erosion of public morality have also been highlighted in recent times (Asmah, Atuilik, & Ofori, 2019).

Like the rest of the world, Africa has had its fair share of these corporate collapses resulting from fraudulent activities with the case of Steinhoff in South Africa being, arguably, the most notable one. Indeed, the 2018 Report to the Nations by the ACFE classifies the African continent as the second largest in the world in terms of the number of reported fraud cases by business organizations (ACFE, 2018). Within the Ghanaian context, the financial sector experienced what has been described by many as its most turbulent moment in the country's history largely due to fraudulent activities. Between 2017 and 2019, a total of 16 universal banks had collapsed as a result of the banking cleanup exercise carried out by the Bank of Ghana (BoG) with several savings and loans and microfinance companies also going down. Per the BoG records, the monetary values of fraud cases (both successful and unsuccessful) for the year 2016 aggregate to the equivalent of $44,789,725 (BoG, 2019).

Due to the huge financial losses usually associated with corporate failures, the need to devote maximum attention to issues of fraud within organizations and develop ways of mitigating the occurrence of fraud has been highlighted by major stakeholders in the business community (Owusu, Bekoe, Anokye & Okoe, 2020). Consequently, discussions on fraudulent activities by key personnel in business organizations have heightened in recent times. Central to these discussions has been the role of accountants in corporate failures as accountants are usually active participants of several reported fraudulent activities (Low, Davey, & Hooper, 2008; Maree & Radloff, 2007). For instance, accounting and auditing failures on the part of professional accountants were cited as one of the key reasons responsible for the failure of giant companies like Enron, WorldCom, Peregrine Systems, Rite Aid, Sunbeam, Tyco, Waste Management, W.R. Grace, and Xerox (Armstrong, Ketz, & Owsen, 2003; Ashforth, Robinson, & Treviño, 2008; Gino, Schweitzer, Mead, & Ariely, 2011).

Thus, the role of professional accountants in the fraud discourse cannot be overemphasized especially in the area of financial statement fraud. Notwithstanding the relevance of financial statement fraud to the fraud discourse, empirical studies have shown that the frequency with which employees engage in other forms of fraudulent activities, most especially asset misappropriation, far surpasses financial statement fraud (ACFE, 2016; ACFE, 2018; Zahari, Said & Arshad, 2020). According to the ACFE 2018 Report, asset misappropriation alone occurred in 89% of all reported fraud cases between 2016 to 2018. Interestingly, while cases of asset misappropriation continue to be on the rise, the focus of most academic researchers have been on financial statement fraud.

The current study contributes to the literature on fraud by focusing on asset misappropriation by employees. The study, in particular, examines the occurrence of this phenomenon at the workplace highlighting the dominant factors that explain why some employees engage in asset misappropriation. The study findings offer insights that are useful to the determinants of asset misappropriation literature.

1.1 Problem Statement

The issue of fraud continues to attract the attention of researchers globally due to the increasing growth in reported cases of fraud and its negative impact on the sustainability of businesses. While the literature acknowledges that fraud could be perpetrated both externally and internally, the evidence provided by extant studies (Asmah, Atuilik, & Ofori, 2019; Gullkvist & Jokipii, 2013; Mustafa & Youssef, 2010; Zahari et al., 2020) demonstrate that internally perpetrated fraud by employees (occupational fraud) has been more rampant than the former in recent years. For instance, a report by both the ACFE and PwC suggests that between the years 2016 and 2018, the

occurrence of employee-related fraud worldwide increased from 46% to 52% (PwC, 2018; ACFE, 2018). The Bank of Ghana, in its annual report, also indicates that GHS19.1m of the fraud losses from the bank frauds in Ghana in 2018 were as a result of actions of the staff of the banks involved (BoG report, 2019).

Consequently, several studies on occupational fraud have emerged over the years. Despite the increased interest in occupational fraud research, most existing studies have focused predominantly on financial statement fraud (Nigrini, 2019; Robinson & Aria, 2018; Simha & Satyanarayan, 2016; Tang & Karim, 2018; Vassiljev & Alver, 2016) with less attention on the other forms of occupational fraud. In particular, studies on asset misappropriation have been scant notwithstanding its prevalence as a form of occupational fraud (ACFE, 2016; ACFE, 2018; Zahari et al., 2020). Thus, while asset misappropriation continues to dominate reported cases of occupational fraud, research interest in this area has been low.

Interestingly, the few existing studies on asset misappropriation have focused on issues such as financial expertise of audit committees about asset misappropriation (Mustafa & Youssef, 2010), the internal audit function and the detection of asset misappropriation (Coram, Ferguson & Moroney, 2008), red flags of asset misappropriation (Gullkvist & Jokipii, 2013), asset misappropriation and corporate governance (Chapple, Fergusion & Kang, 2007) but not on the factors that influence individuals to misappropriate asset at the workplace. While the relevance of these studies cannot be underestimated, Young (2000) emphasizes the need for studies into fraud to focus more on ways of minimizing the occurrence of fraud rather than focusing on 'curative' measures.

Besides, most studies in the area of fraud have relied heavily on the Fraud Triangle Theory and the Fraud Diamond Theory in developing theoretical underpinnings for the factors predicted to be responsible for the occurrence of fraud. While these theories have been useful in shaping our understanding on fraud and its related concepts, Vousinas's (2019) S.C.O.R.E. model though recent, is believed to be wider in scope and hence, should provide a useful extension to our understanding on the fraud phenomenon. However, to date, the applicability of the S.C.O.R.E. model remains an open question as it lacks empirical support. Thus, while the S.C.O.R.E. model extends previously known predictors of fraud (pressure, capability, opportunity and rationalization) to include additional concept (Ego), the effect of this new addition on fraudulent behaviour is yet to established empirically.

While the use of these factors of the S.C.O.R.E. model in fraud research has yielded significant contributions to the fraud discourse, the study finds the elements of the factor 'opportunity', from an accounting perspective, to bother more on internal control mechanisms. This study, therefore, redefines the element opportunity of this theory to measure the perceived strength of internal controls from the viewpoint of employees. This study argues that the strength of the internal controls in an organization is what would create or seal the opportunity for the occurrence of fraud. Therefore, how strong or weak an individual perceives the internal control situation in his or her firm may influence that individual's decision to misappropriate assets. To this effect, the study examines the perception of individuals of the strength of internal controls in their organizations and investigates the role these perceptions play in the occurrence of asset misappropriation.

This study fills the aforementioned gaps by investigating the prevalence of asset misappropriation at the workplace focusing on the factors that influence individuals to misappropriate asset at the

workplace. The study also employs the new theory on fraud, S.C.O.R.E. model, in examining the relationships that exist among the variables in the study. The study also tests the moderating role of the perceived strength of internal controls in the relationships the identified determinants have with asset misappropriation.

1.2 Research Objectives

1. To investigate the prevalence of asset misappropriation in Ghanaian firms
2. To examine the factors that influence individuals to misappropriate asset at the workplace
3. To ascertain the moderating role of the perceived strength of internal controls in the relationships between the identified factors and asset misappropriation

1.3 Research Questions

1. How prevalent is asset misappropriation in Ghanaian firms?
2. What are the factors that influence individuals to misappropriate assets in the workplace?
3. Does the perception of the strength of internal controls at the workplace moderate the relationships between the identified factors and asset misappropriation?

1.4 Significance of the Study

The study presents potential significance along two strands. To research, the study adds to a deficient area of occupational fraud research, asset misappropriation, by investigating the factors that cause individuals working in various organisations to misuse assets at the workplace. The findings of the study provide new insights into the fraud discourse particularly on the subject matter of asset misappropriation where little attention has been devoted. The study also adds to existing knowledge of fraud research by using the perceived strength of internal controls as a

moderating variable. Again, the study provides empirical support for the applicability of a new theory on Fraud, the S.C.O.R.E. model.

To practice, information on what causes fraud amongst employees would be made known and hence measures can be put in place to mitigate and subsequently curb the occurrence of asset misappropriation at the workplace. Auditors would also be guided by identified causes to aid in detecting fraudulent activities related to asset misappropriation.

1.5 Organisation of the Study

The study is organised into five chapters as follows:

Chapter one gives a general overview of what the study is about and what the study intends to achieve. It comprises of background, the problem statement, research objectives, research questions and the significance of the study.

Chapter two reviews existing literature on occupational fraud, specifically asset misappropriation, and discusses the factors that influence individuals to engage in occupational fraud as suggested by the S.C.O.R.E. model, a new theory on fraud. The chapter also discusses the research framework and how the hypotheses tested in the study were developed.

Chapter three discusses in detail the methods used for the study. It discusses among other things the research design, the sampling technique and sample used, how data was collected as well as the data analysis process.

Chapter four presents and discusses the key findings of the data analysis.

Chapter five, the final chapter, provides a summary of the entire thesis and draws conclusions by highlighting the key findings of the study. The chapter also discusses the study's key contributions, the limitations and makes recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents an extensive review of both empirical and theoretical literature relevant to the current study. The chapter starts with a review on the background to the concept of fraud and its relevance to the accounting profession at large. This is followed by a discussion of the various types of fraud that occurs within organizations. Next, a comprehensive review of the determinants of asset misappropriation is presented and their perceived relationships with fraud occurrence are highlighted. A review of the dominant theories on fraud: the fraud triangle theory, the fraud diamond theory and the S.C.O.R.E. model follows and the chapter concludes by discussing the conceptual framework and develops the hypotheses for the study.

2.1 The Concept of Fraud

The term fraud, in general, appears to have an obvious meaning to the average person, but the conceptualization of fraud in the literature has been described to be complex. The argument is that the meaning of fraud can differ depending on the situation and the person defining it. In our daily lives, most people casually refer to the occurrence of some crimes and offences as fraud without regard for the true meaning of what constitutes fraud. From the perspective of a business, it has been a challenging task to define what constitutes fraud as according to Smith (2001) it extends from conducts as trivial as an employee having an extended lunch break without permission, to large-scale misappropriation of funds by a company accountant involving many millions of dollars.

Due to the difficulty in the conceptualization of the term fraud, the term has been defined severally and from different dimensions and there still appears to be no consensus on a universal definition for fraud. To discuss the issue of fraud, however, Vaisu, Warren & Mackay (2003) suggest the definition of fraud should be made clear so that the information shared on fraud has the same meaning.

2.2 Fraud Defined

The concept of fraud has been defined differently by several scholars varying from relatively narrow definitions to very broad ones. For instance, according to Silverstone & Sheetz (2007), fraud could simply mean "harm, wrongdoing and deceit". Zervos (1992, p.199) also simply defines fraud as "the art of deception for gain".

Gilbert (1997) also provides a similar definition to that of Zervos (1992) but highlights some acts of deceits. Gilbert (1997, p. 124) defines fraud as "an act of using deceit, such as intentional distortion of the truth or misrepresentation or concealment of a material fact, to gain an unfair advantage over another in order to secure something of value or deprive another of a right".

Smith (2001, p. 1) views fraud from a criminal perspective and defines fraud as "a generic category of criminal conduct that involves the use of dishonest or deceitful means in order to obtain some unjust advantage or gain over another".

Recognized bodies and standards have also provided varied definitions for fraud. The International Standards on Auditing (ISA 240, p. 5), for instance, defines fraud as "an intentional act by one or

more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage".

The last definition of fraud the study points out is that of a body that is dedicated to investing and reporting on fraud cases across the globe, the Association of Certified Fraud Examiners. The ACFE defines fraud as "a knowing misrepresentation of the truth or concealment of material fact to cause detriment to another" (ACFE, 2018, p. 6).

From the above, it is clear that despite the apparent differences in the conceptualization of the concept of fraud, it remains an act usually perpetrated against an entity or a person, by an individual or a group of individuals for personal gains or to benefit their organizations. Also, a central fact in the above definitions is that fraud is an act of deceit meant to cause harm to another or deprive another of something.

2.3 Types of Fraud and Fraud Perpetrators

Fraud can either be committed against individuals or organizations. Fraud against individuals is a phenomenon that has been largely neglected by scholars in the fraud discourse (Levi, 2008; Shichor, Sechrest & Doocy 2001). Individuals can fall victim to fraud knowingly, unknowingly or unbelieving. People become victims of fraud without knowing they are being defrauded. For example, some people enter lotteries knowing that it is unlikely to win. Not receiving a prize, therefore, does not suggest any signs of fraud although that may constitute fraud against the individual who entered the lotto (Button, Lewis & Tapley, 2009; Panel, 2006).

Button, Lewis & Tapley (2009) point out that most frauds against individuals end up in the victim finding out or knowing about it. However, not all fraud victims report when they get to know of the frauds. A statement released in February 2015 by the US attorney's office indicate that only 15 per cent of fraud victims report their crimes to law enforcement. Some individuals get so taken by the fraud schemes that they do not believe it to be a fraud. For instance, some victims of investment frauds who were told at the point of payment by their banks that it was a scam did not believe (Button, Lewis & Tapley, 2009).

Although fraud could either be against individuals or organizations, fraud against organizations is what is given maximum attention in the fraud discourse due to the dire effects it can have on organizations. Fraud continues to be a major problem for most organizations as it affects business growth negatively. Organizations lose close to 5% of their revenues to fraud every year. This translates to about $7.1 billion in losses from the 2,690 cases reviewed by the Association of Certified Fraud Examiners (ACFE) for their 2018 report to the nations (ACFE, 2018). In addition, fraud against organizations is considered an economical phenomenon as the effects of fraud on organizations can consequently affect the economy. The positive performance of firms helps in the growth of economies. Fraud ruins the profitability, reputability, and legitimacy of organizations which in turn affects the economy at large.

Fraud committed against organizations can be either internally perpetrated by employees, managers, officers, and in some instances, owners of the organizations or externally by customers, vendors and other parties (ACFE, 2019). External fraud against an organization covers a wide scope of schemes. Individuals outside a firm can exploit weak internal controls in that firm to take away the resources of the firm. For instance, external perpetrators can steal money from a firm

when there are poor access controls to the cash safe (Mui & Mailley, 2015). Organizations also face dangers of security breaks and burglaries of property by outsiders, hacking, information theft, amongst others. In some instances, external perpetrators of fraud against organizations are former employees of the firm who try to take advantage of their prior knowledge of the organization (Mui & Mailley, 2015).

While the prevalence of external fraud and its impact on business success cannot be underestimated, fraud perpetrated internally has been acknowledged to be the most pervasive against businesses. Internal fraud occurs when the same people who are trusted to protect the assets and resources of an organization purposely misuse or misapply the organization's resources and assets for own enhancement (Global Fraud & Examiners, 2016). Perpetrators of internal fraud may therefore be the executives, employees and managers of organizations. In literature, internal fraud is commonly referred to as "Occupational Fraud". Compared with the former, occupational fraud is believed to be the largest and most prevalent threat organizations and the global economy are confronted with (ACFE, 2018).

2.4 Types of Occupational Fraud

To better understand and distinguish between the various types of fraudulent activities that occur within an organization, the ACFE developed the Occupational Fraud and Abuse Classification System, also known as the Fraud Tree. The fraud tree is a classification system that groups occupational fraud and abuses into three main types of fraud and the various schemes that are classified under these three main types of fraud. The fraud tree classifies fraud into three distinctive

dimensions as financial statement fraud, corruption and asset misappropriation (Global Fraud & Examiners, 2016).

2.4.1 Financial Statement Fraud

Financial statement fraud generally refers to deliberate alterations of a firm's financial statements to portray a different image of the firm often with an intent to mislead the users of the financial information (ACFE, 2018; Robinson, 2018). Unlike some misstatements in the financial statements that are unintentional errors, these alterations are carefully planned for the benefit of the perpetrators. Beasley, Carcello, Hermanson & Lapides (2000) indicate that financial statement fraud can be classified into three main categories namely change in accounting methods, fiddling with managerial estimates of cost and accelerated or delayed revenue and expenditure recognition. Bonner, Palmrose & Young (1998) provide an alternative taxonomy of financial statement fraud which provides 12 categories of fraud. These include fictitious revenues, premature revenue recognition, misclassifications and fictitious assets and/or reductions of expenses/liabilities. Others include overvalued assets and undervalued expenses/ liabilities, omitted or undervalued liabilities (affecting expenses or assets), omitted or improper disclosures (equity frauds), related party transactions, frauds going the "wrong way" (those understating income and/or assets), illegal acts and miscellaneous (including consolidation issues).

Although financial statement fraud is considered to be the least common form of occupational fraud in terms of frequency of occurrence, it remains the costly form of fraud. For instance, while financial statement fraud schemes constituted about 10% of the 2960 fraud schemes examined by the ACFE, it resulted in about 69% ($800,000) of the total losses that, on average, each

organization suffers. Schmalleger (1991), opines that more money has been stolen at the point of a pen than at the point of a gun.

2.4.2 Corruption

Unlike financial statement fraud, corruption schemes are a common form of occupational fraud frequently perpetrated against organizations internally. As a dimension of the fraud tree, corruption has been explained to include "schemes that result in abuse of power or influence by an individual in a business transaction in a way that violates the individual's duty to the employer in order to gain a direct or indirect benefit" (ACFE, 2012, p. 2). Schemes such as bribery, embezzlement, forgery are all forms of corruption (Gorsira, Steg, Denkers, & Huisman, 2018).

Corruption could be incidental, institutional or systematic (Kpundeh, 1998). Hechanova, Melgar, Falguera, & Villaverde (2014) explain incidental corruption to include acts of embezzlement on a small-scale, favouritism and discrimination; institutional fraud, on the other hand, is explained to involve bribery, kickbacks, embezzlement on a large scale and rendering economic privileges to special interests; whereas systematic corruption is explained to include the inclusion of non-existent workers on government payrolls for embezzlement, false procurement and giving of favours based on political contributions. Corruption schemes represent the second most common form of occupational fraud. Available statistics suggest corruption as a form of fraud accounted for about 38% of the cases in the 2018 report by the ACFE which translates to on average, $250,000 median loss to an organization.

2.4.3 Asset Misappropriation

Considered to be the most pervasive form of occupational fraud, an action by an employee is termed to be a misappropriation of an asset when the employee 'steals or misuses the organization's resources e.g. theft of company cash, false billing statements or inflated expense reports" (ACFE, 2012, p. 3). The perpetrator of the fraud in this instance uses trickery or deceit means in stealing or misusing the assets of an organization. For asset misappropriation to occur, "the 'act' of asset theft, concealment, and conversion must all be present" (Albrecht, Kranacher, & Albrecht, 2008, p.1). Again, the assets in question should have been taken for the personal benefit of the individuals misappropriating the assets. Such individuals could be employees of the organization, customers or vendors to the organization, or individuals who neither work for nor work with the organization (Albrecht et al., 2008).

Asset misappropriation is reported to be the most common amongst the fraud types as it usually the easiest form of fraud to commit (ACFE, 2018; Global Fraud Examiners, 2016; Padgett, 2015). Although the most common of the fraud schemes, asset misappropriation often does not result in huge direct losses as in the case of financial statement fraud (Global Fraud Examiners, 2016). Asset misappropriation, however, rids organizations of resources that could have been employed to enhance their performance and profitability. ACFE (2018) reports that asset misappropriation cases increased by about 6% since their 2016 report, i.e. from 83.5% to 89%.

The 2018 report to the nations by the ACFE classifies asset misappropriation schemes into two main types: cash misappropriation and misappropriation involving inventory and all other assets. Based on these categories five different misappropriation schemes have been identified as: theft of cash on hand; theft of cash receipts in the form of skimming or cash larceny; fraudulent

disbursements in the form of billing, payroll or expense reimbursement schemes, check and payment tampering and register disbursement; and misuse of assets and larceny of assets (ACFE, 2018).

The first category, theft of cash on hand is "a scheme in which the perpetrator misappropriates cash kept on hand at the victim organization's premises" (ACFE, 2012, p. 5). 15% of the fraud cases examined in the 2018 Report to the Nations were associated with cash on hand theft and resulted in a median loss of $20,000. Theft of cash receipts, the second category, comes in two forms: skimming and cash larceny. Skimming is a "scheme in which an incoming payment is stolen from an organization before it is recorded in the organization's books and record" (ACFE, 2012, p. 7). 11% of fraud cases were skimming cases and constitutes about $50,000 of the total loss. Cash larceny on the hand occurs when an "incoming payment is stolen from an organization after it has been recorded on the organization's books and records" (ACFE, 2012, p. 8). Similar to skimming, cash larceny accounted for 11% of the total fraud cases but with a higher median loss of $75,000 (ACFE, 2018).

The third category, fraudulent disbursements cover a wide variety of schemes: billing schemes, payroll schemes, expense reimbursements, check tampering and register disbursements. Billing scheme is a scheme in which a person causes his or her employer to issue a payment by submitting invoices for fictitious goods or services, inflated invoices or invoices for personal purchases. The 2018 Report of the Nation records that a great percentage of occupational fraud was in the form of billing schemes (20%) with a high median loss of $100,000. Payroll schemes occur when an employee causes his or her employer to issue a payment by making false compensation claims. Payroll schemes recorded a decline of 1.5% from 2016 and a corresponding lower median loss of

$63,000. Expense reimbursement scheme occurs when an employee claims for reimbursement of fictitious or inflated business expenses. Although fraud cases as a result of expense reimbursement remained at about 14%, the median loss reduced, however, from $40,000 to $31,000. Check tampering is a scheme in which a person steals his or her employer's funds by intercepting, forging or altering a check or electronic payment drawn on one of the organization's bank accounts. With the highest median loss of $150,000, check tampering was seen in 12% of the recorded fraud cases. Register disbursement occurs when an employee makes false entries on a cash register to conceal the fraudulent removal of cash. 3% of the fraud cases had to do with register disbursements and resulted in a median loss of $29,000 (ACFE, 2018).

Non-cash misappropriations are in the form of employees stealing or misusing non-cash assets of the organization such as inventory or equipment for their benefit. This is termed misuse and larceny of inventory and all other assets.

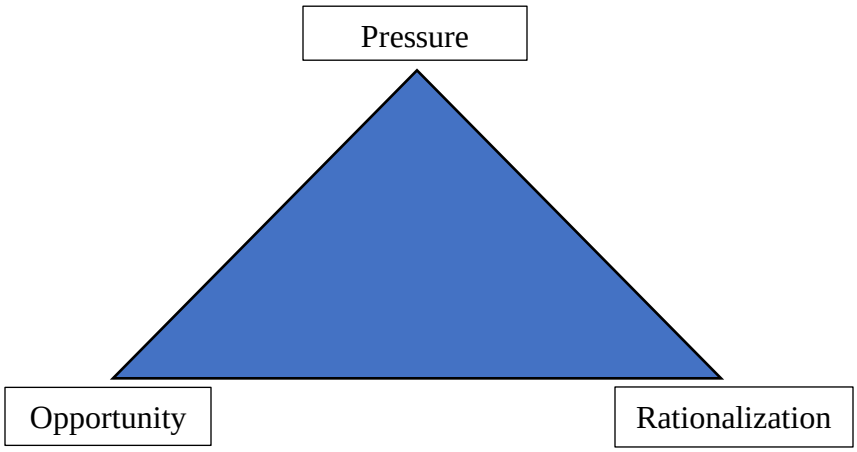
Asset misappropriation is the main focus of this study as the phenomenon has not received much attention in existing studies although it remains the most common type of occupational fraud (ACFE, 2018) which can be committed by all individuals within a firm (Zahari et al., 2020). In addition to its dominance, asset misappropriation is a phenomenon that is of great importance to the Accounting discipline, especially in the field of auditing. The current professional audit standards ISA 240 extends auditors responsibility for fraud detection to include asset misappropriation. This, therefore, makes asset misappropriation a topical issue in Accounting worth the attention of accounting researchers.

2.5 Theoretical Review

Several theories have been employed by researchers in prior studies on fraud and other related concepts. Theories including the Fraud Scale, Fraud Cube, Fraud Square, ABC of white-collar crime, Money, Ideology, Coercion and Ego model commonly referred to as the MICE model amongst others. However, the two most dominant theories that have frequently been employed by several studies on fraud for years are The Fraud Triangle Theory (FTT) and the Fraud Diamond Theory (FDT).

2.5.1 Fraud Triangle Theory

The Fraud Triangle Theory (FTT) is a refined version of a concept propounded by a renowned criminologist, Donald R. Cressey in 1950. The components of the FTT have its origin in a book written by Cressey (Cressey, 1953). Cressey sought to explore the reasons for which people commit fraud and focusing more on the motivation for individuals to violate trust. Findings of the study suggest that trusted individuals may violate trust when confronted with financial pressures which can't be shared with others. To resolve these financial problems, trusted persons take advantage of their positions of trust to use property entrusted to them (Cressey, 1953). Three main antecedents to fraud are highlighted by Cressey (1953): Pressure, Rationalization and Opportunity which forms the components of the FTT. The FTT is represented graphically as shown in Figure 2.1.



Source: (Cressey, 1953)

Figure 2.1 The Fraud Triangle

2.5.1.1 Pressure

The first reason found by Cressey to influence people to commit fraud is pressure. Cressey defined pressure as a non-shareable problem that motivates a person to commit fraud. The pressure to commit fraud arises when an individual is faced with financial and non-financial burdens that may drive him/her to engage in fraudulent activities (Cressey, 1953). Individuals faced with such pressures tend to seek interim options to solve their problems and engaging in fraudulent activities becomes a possible alternative (Omar & Mohamad Din, 2010). Cressey (1953) suggests that trusted persons may be converted to violators of such trust when they are faced with these pressures or they perceive to have such a problem. According to Hasnan, Abdul Rahman & Mahenthrian (2008), pressure is usually exerted from the external environment to meet certain financial goals but could also be a personally generated desire to attain some financial targets.

Cressey (1953) categorized non- shareable problems that bring about pressure into six: difficulty in paying back debts, problems resulting from personal failure, business reversals, physical isolation, status gaining and unfair employer-employee relations. Other researchers have also

classified pressure in several ways. For instance, Lister (2007) groups pressure into personal pressure, employment pressure and external pressure. Personal pressure is usually to pay for an individual's lifestyle; employment pressure is often in pursuant of continuous compensation structures, or for management's financial interest; and external pressure could be directed towards the organization or an individual in the event of threats to the business' financial stability, financier covenants, and high market expectations. Similarly, Vona (2008) points out two kinds of pressure: personal and corporate pressures.

Albrecht et al. (2008) grouped pressure into four: economic, vice, job-related and other pressures which could be financial or not. Financial pressures could be in the form of personal financial losses, falling sales, inability to compete with other companies, greed, living beyond one's means, personal debt, poor credit, the need to meet short-term credit crises, inability to meet financial forecasts, and unexpected financial needs. Non-financial pressures could also arise from the need to report results better than actual performance, frustration with work or a challenge to beat the system.

Whereas Murdock (2008) was also of the view that pressure could be financial or non-financial, he adds that pressure could be political and social. The findings of Murdock (2008) purport that non-financial pressure can be derived from a lack of personal discipline or the involvement in gambling and addiction to drugs. Also, political and social pressures occur when people feel they cannot appear to fail due to their status or reputation.

Ruankaew (2016) posits that every fraud perpetrator must have faced some kind of pressure to commit fraud. The pressure is what leads the perpetrator to engage in fraudulent activities.

Albrecht, Hill, & Albrecht (2006) also found that all individuals in the organization, be it the executive, management or employees, experience some form of pressure. This pressure need not be real; once the individual believes to he or she is being pressured, it is likely to influence that individual to engage in fraudulent activities to come out of such pressures (Albrecht et al., 2006).

Several other researchers agree that in response to financial, family or work pressures, fraud often comes about (Albrecht, Turnbull, Zhang, & Skousen, 2010). Albrecht et al. (2006) explicitly stated that about ninety-five per cent of fraud cases are influenced by financial pressure. Said, Alam, Ramli, & Rafidi (2017) posit that financial pressures may seem different depending on the position of an individual in an organization. For example, a manager may be under pressure to meet some targets and hence manage earnings to escalate profits reported in the financial statement whereas a treasurer, due to personal pressure, may take home some money from the cash safe of the firm (Said, Alam, Ramli, & Rafidi, 2017).

2.5.1.2 Opportunity

From the tenets of the FTT, another important factor that influences individuals to commit fraud is the existence of 'opportunity' to engage in the fraudulent act. Opportunity for fraud could be as a result of trust the organization has in the individual to be in charge of some important roles within the organization with little supervision or the organization having weak control systems (Omar & Din, 2010). An organization with a weak board of directors lacks measures to detect and prevent fraud, has no sanctions for fraud perpetrators to deter others or lacks an audit trial presents an opportunity for its employees to commit fraud (Kassem & Higson, 2012). The opportunity that exists in organizations can impact greatly on a person's likelihood to engage in fraudulent activities

(Ruankaew, 2016). Similar to pressure, opportunity can be real or not. Once an individual believes that such opportunities exist, he or she may take advantage to engage in fraudulent activities. As suggested by Albrecht et al. (2006), most researchers, therefore, use the term 'perceived opportunity'.

Kumar, Bhattacharya, & Hicks (2018) report that if overtime, organizations fail to seal opportunities for the occurrence of fraud, some workers in the organization may see it as a signal of "slack organizational culture" and eventually take advantage of these opportunities. These long-existing opportunities serve as temptations to such individuals (Beck & Ajzen, 1991). To the extent that organizations cannot control individual factors such as financial and personal pressures, an important avenue for minimizing the occurrence of fraud is to avoid creating an opportunity for fraud (McClurg & Butler, 2006; Ruankaew, 2016).

2.5.1.3 Rationalization

Perpetrators of fraud often have a mindset that makes them give excuses to justify their actions (Hooper & Pornelli, 2010). This mind-set has been referred to as rationalization in FTT and has been explained as an attitude of an individual that makes him or her justify immoral acts they engage in as not criminal (Abdullah & Mansor, 2015). Perpetrators of fraud often do not consider themselves to be criminals as they mostly seek to rationalize their illegal behaviour by maintaining the belief that they are still trusted persons as before committing the fraud (Ruankaew, 2016; Vousinas, 2019). As argued by Jackson, Holland, Albrecht, & Woolstenhulme (2010), if a person is not able to provide justifications for his or her wrongdoings, it is unlikely that individual will engage in acts considered to be unethical conducts as fraud. Abdullah & Mansor (2015) point out

that rationalization is an unobserved behavior which is difficult to notice as one cannot know the mind of another. According to Rae & Subramanian (2008) people often rationalize to justify unethical behaviors because they lack personal integrity and moral reasoning.

Individuals give several rationalizations for their fraudulent behaviors. Often, the internal culture of organizations serves as breeding grounds for some rationalizations of employees to commit fraud (Murphy & Dacin, 2011). For example, people justify their fraudulent behaviors at the workplace with rationalizations such as "bribery is a common culture here", and "everyone does it, why not me?' Others have a belief that once their actions do not hurt others directly, or their actions will help achieve an ultimate good, it is not fraudulent. Also, when people perceive to be underpaid, fraudulent acts against their organization are a form of compensation to them. As a result, people develop rationalizations such as "I was only borrowing the money", "I had to steal to provide for my family", "I deserve a bonus or a raise but did not get one", "I am underpaid, the organization owes me," "nobody will get hurt", " it's for a good purpose" (Cressey, 1953; (Ramamoorti, 2008; Said et al., 2017; Zikmund, 2008).

Cressey (1953) reports that first-time fraud offenders, especially those with no prior criminal experience, always rationalize to support their actions. They see themselves as people who found themselves in a difficult situation and had to find a way out. A report by KPMG supports this finding with evidence of most first-time fraudsters justifying their wrongdoings and hence not considering themselves criminals.

Rationalization, therefore, enables perpetrators of fraud to justify their actions to make them acceptable to themselves and protect their belief and self-image as honest, innocent persons who

were unfortunate to be caught up in a critical situation and not criminals (Cressey, 1953; Said, Asry, Rafidi, Obaid, & Alam, 2018). "The greater the incentive or pressure, the more likely an individual will be able to rationalize the acceptability of committing fraud" *(AU316.06, Paragraph .07)* (Kassem & Higson, 2012).

Although Cressey's FTT has been widely used and supported by several empirical studies, some researchers have criticized the FTT for being limited in some regards. For instance, while the appropriateness in observing the two sides of the FTT (pressure and rationalization) has been challenged, some important factors, like fraudsters' capabilities and other non-financial factors are not captured by the FTT (Kassem & Higson, 2012; Melorose, Perroy, & Careas, 2015; Ruankaew, 2016; Sujeewa, Yajid, Azam, & Dharmaratne, 2018; Vousinas, 2019). Moreover, Vousinas (2019) argues that despite its usefulness the FTT alone may not meet all considerable social changes as it is about half a decade old. Hence, some researchers suggested the theory should be expanded to include non-financial factors like ego and coercion, while others suggested a fourth side to be added to the fraud triangle which is "fraudster's personal capabilities" (Kassem & Higson, 2012; Wolfe & Hermanson, 2004)

2.5.2 Fraud Diamond Theory

In response to the criticisms raised against the FTT, Wolfe & Hermanson (2004) introduced an observable factor- Capability to the FTT. A new fraud theory, the Fraud Diamond Theory, emerged with four elements: Pressure, Rationalization, Opportunity and Capability. The addition of capability to the FTT enhances the theory to be a better tool for preventing and detecting fraud (Wolfe & Hermanson, 2004).

2.5.2.1 The Concept of Capability

Wolfe & Hermanson (2004, p.1) define capability as "personal traits and abilities that play a major role in whether fraud may occur even with the presence of the other three elements of the fraud triangle theory". The key argument espoused by this study is that most of the fraudulent acts that led to massive loss of resources occurred because people with the right capabilities were involved. As explained by the authors, the relevance of the construct capability in explaining fraudulent activities of individuals stem from the fact that while the existence of an opportunity opens the doorway to fraud, and notwithstanding the fact that pressure and rationalization can draw the person towards it, a person must have the capability to recognize the open doorway as an opportunity in order to take advantage of it. Thus, the ability to recognize the existence of the opportunity alone is not enough to commit fraud unless an individual is well-positioned to take advantage of that opportunity. A fraud perpetrator should therefore have the skills and ability to actually commit the fraud.

Wolfe & Hermanson (2004) explained capability to encompass six elements: position, smartness, confidence, coercion, effective lying and dealing with stress. First, the person should be in a position or perform a function within the organization that grants him access to the assets of the organization and allows him or her to commit fraud. Often, this position is not enjoyed by others in the organization and hence provides an advantage that can be exploited by the individual to commit fraud. For example, a store's manager is in a better position to abuse the assets of an organization since he keeps and report on the assets in stock. Again, performing a function repetitively increases one's knowledge and control of the process over time and hence the capability of the individual to commit fraud heightens.

Second, the fraud perpetrator should be smart enough to notice there exist and then take advantage of the weaknesses in the internal system (Wolfe & Hermanson, 2004). Most of the reported fraud cases have intelligent and creative minds behind it. The ACFE affirms this in their report to the nations when they found that about 51% of fraud perpetrators had at least a bachelor's degree (Global Fraud & Examiners, 2016).

The person to perpetrate the fraud must also have the confidence that he will not be caught and the cost that would accrue to him would be minimal. The fraud action would be considered less costly when the confidence of the perpetrator is high. Also, the perpetrator should be someone who can convince others to go along or look away to enhance a fraud. The perpetrator also needs to be a consistent liar to be able to keep the stories he or she makes to cover up for the fraud meaningful. Lastly, committing fraud comes with the constant fear of being detected and its related consequences of shame and punishment. Dealing with this feeling daily can be very stressful. The perpetrator must therefore be good in dealing with stress (Wolfe & Hermanson, 2004).

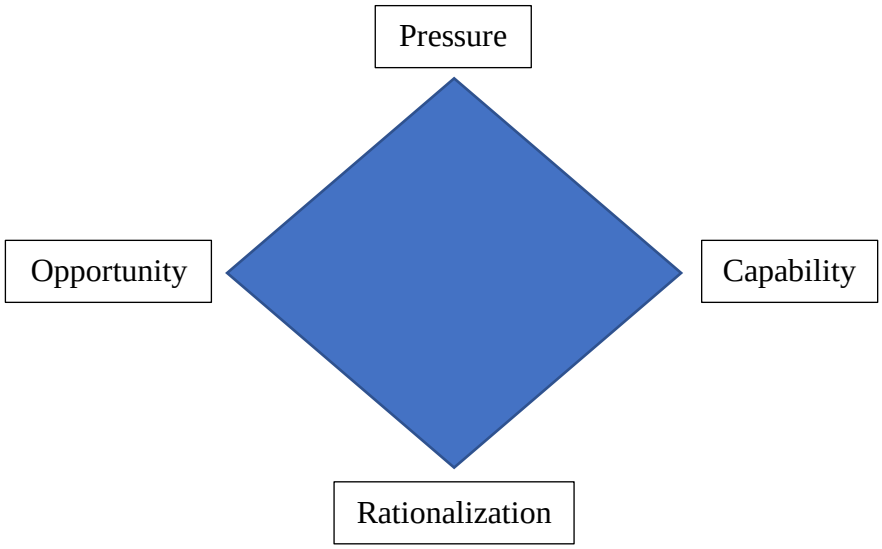


Figure 2.2: The Fraud Diamond

2.5.3 Stimulus, Capability, Opportunity, Rationalization and Ego model (The S.C.O.R.E. Model)

Although the FTT and FDT are the most widely used models for explaining why people commit fraud, recent studies suggest that the FTT and the FDT should not be seen as the sufficiently reliable models (Lokanan, 2015; Vousinas, 2019). Based on the criticisms of the FTT and FDT a more recent theory the S.C.O.R.E. model was developed by Vousinas (2019) to address some of the inherent limitations of the FTT and FDT. Vousinas (2019) argues that apart from the four known predictors of fraud based on the FTT and FDT, the ego of an individual should also be considered when investigating the determinants of fraud. The S.C.O.R.E. model consequently, postulates that five factors may account for why individuals engage in fraud: stimulus/pressure, capability, opportunity, rationalization and ego. Thus, conceptually the S.C.O.R.E. model is distinct from the other models by the addition of the construct Ego.

2.5.3.1 Ego as a Determinant of Fraud

Criminal behaviour, according to ancient psychology, is as a result of mental processes (Vousinas, 2019). Sigmund Freud, one of the early psychologists, found from his study on early childhood development that there may be some motivations of human actions. Freud (1923) found that human personality comes in three parts: the ‘id’ i.e. the drive for things and pleasure, ‘super-ego’ i.e. the conscience developed by incorporating learned values into one’s behavior and ‘ego’ i.e. the product of the interaction between what a person wants and what his conscience will allow him to do.

Ego is what makes an individual decide what is considered moral and what is not. People care what others think of them regarding their actions because of the ego they have. People work at

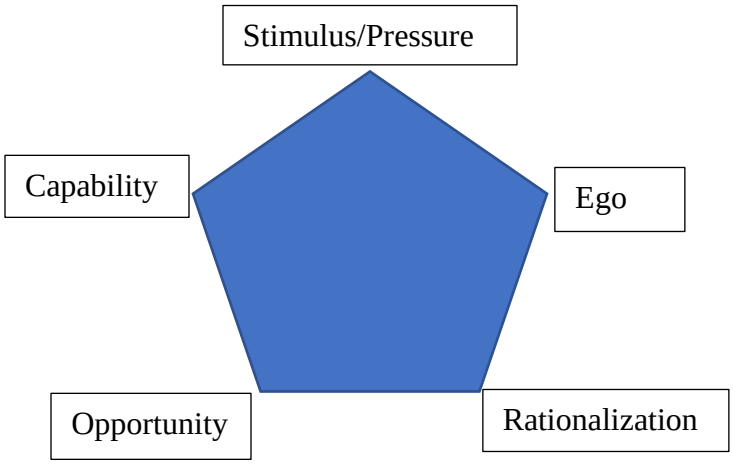
building a reputation or status in life and do their possible best to maintain it. Because people cherish and do not want to lose their reputation, especially one of power, they may or may not involve themselves in certain activities just to keep their ego (Vousinas, 2019). On the positive side, people who want to maintain their reputation may not want to tarnish their integrity and hence would be conscious not to engage in actions that suggest otherwise. Such individuals are less likely to engage in activities considered unethical or immoral. On the other hand, people can also go the extreme to do anything just to keep status in life. Such extremes may include engaging in fraudulent acts.

Vousinas (2019) argues that the social pressures individuals face force them to engage in fraudulent activities primarily to keep their ego. Individuals delight in the belief that they are outsmarting the world when their first crimes were successful and undetected. This makes them feel superior to others and boost their ego. They, therefore, engage again and again in such fraudulent activities as far as they are not being caught having the excitement of tricking the world (Vousinas, 2019). Duffield & Grabosky (2001) also suggest that aside from financial pressure, ego could be another motivation for fraud. The two streams of ego: power over people and power over situations could cause individuals to commit fraud.

Vousinas (2019) argues that ego appears to be a common trend in some of the most recent shocking frauds and provides instances of fraud cases where ego is seen to play a role. First is the case of Russell Wasendorf, founder of Peregrine Financial Group, who admitted in a suicide note that "I guess my ego was too big to admit failure. So, I cheated". Second, the oversized ego of Robert Allen Stanford, owner of Stanford Financial Group, was responsible for the $7bn global Ponzi scheme. Third is the Ponzi scheme considered the largest financial fraud in the history of USA:

the Bernie Madoff's $65bn scam. Madoff's ego was too huge for him to accept failure and stated that "I refused to accept the fact, could not accept the fact, that for once in my life I failed".

To establish the role of ego in the fraud discourse, Vousinas (2019) introduces the construct "Ego" as an addition to the FDT and calls on researchers to test if this construct is prevalent in various contexts and under different circumstances.



Source: (Vousinas, 2019)

Figure 2.3: The S.C.O.R.E. Model

While the S.C.O.R.E. model provides a more comprehensive approach of investigating fraud determinants, the five factors are by no means exhaustive in explaining why individuals engage in fraud. Empirically, some existing studies have also found the effect of ethical values of an individual to be particularly relevant in the fraud determinants discourse (Awang & Ismail, 2017; Mintz, 2006; Said, Alam, Karim, & Johari, 2018; Said et al., 2017). This study, therefore, includes ethical values as a control variable.

2.5.4 Ethical Values

Ethics is defined severally by different researchers and has no universal definition. Cressy, Cumming, & Mallin (2010) define ethics as agreed standards of what is desirable and undesirable, of right and wrong conduct or behavior of a person, group or entity. Onyebuchi (2011) also defines ethics as a systematic study of conduct based on moral principles. Ethics has become a topical issue in the field of business. Managers, employees and individuals in positions of trust in corporations have been found to exhibit a lack of ethical sense and judgement as they continue to engage in fraudulent and unethical conducts. Subsequently, professional bodies and governments have introduced new waves of legislation for regulating corporations. The accounting profession, for instance, introduced codes of ethics for all its members to abide by in discharging their duties towards the public in a quest to restore its lost reputation (Elias & Farag, 2010).

The lack of ethics education has been found to be a reason for the involvement of individuals in fraudulent activities (Elias & Farag, 2010; Gino et al., 2011; Tang & Chen, 2008). Several studies have examined the importance of ethics education highlighting the need to include ethics in the business curriculum. As a result, most business schools now have as part of their curriculum, courses on ethics education. Firms also organize workshops on ethics to help instil ethical values in their workers (Sugahara & Boland, 2015). Low, Davey, & Hooper (2008) suggest, however, that ethics education should focus on encouraging students to recognize the broader social and political context within their professional practices. Ethics education is also a way to promote ethical sensitivity and awareness amongst students and workers (Low, Davey, & Hopper, 2008; Sugahara & Boland, 2015). Individuals working in the field of business are expected to have ethical values that inform their actions. Most researchers have found that individuals with some

ethics education or personal ethical values are less likely to engage in fraudulent acts (Awang & Ismail, 2017; Mintz, 2006; Said, Alam, Karim, & Johari, 2018; Said et al., 2017).

2.6 Conceptual Framework

The framework for this study is developed with reference to the S.C.O.R.E. model and past studies that had objectives similar to that of the current study (Kassem & Higson, 2012; Melorose et al., 2015; Sujeewa et al., 2018; Vousinas, 2019). The conceptual framework as shown in figure 2.4 describes the interrelationships among the constructs of interest in the study. From a theoretical perspective, the S.C.O.R.E. model explains the relationship between asset misappropriation and the identified factors. Based on this model, the framework first shows the factors predicted to influence fraud to be pressure, rationalization, capability and ego. In addition, the framework controls for the effect of ethical values on asset misappropriation.

Unlike existing studies however, this paper argues that the effect of these constructs on the propensity of an individual to misappropriate asset depends substantially on how individuals perceive the internal control systems of an organization to be. Accordingly, the study conceptualizes the strength of the internal control system of an entity as the opportunities created in the control systems that make room for individuals to engage in fraudulent acts. Thus, the framework for this study also predicts the moderating role of perceived strength of an organization's internal control in the relationship between the identified factors and asset misappropriation.

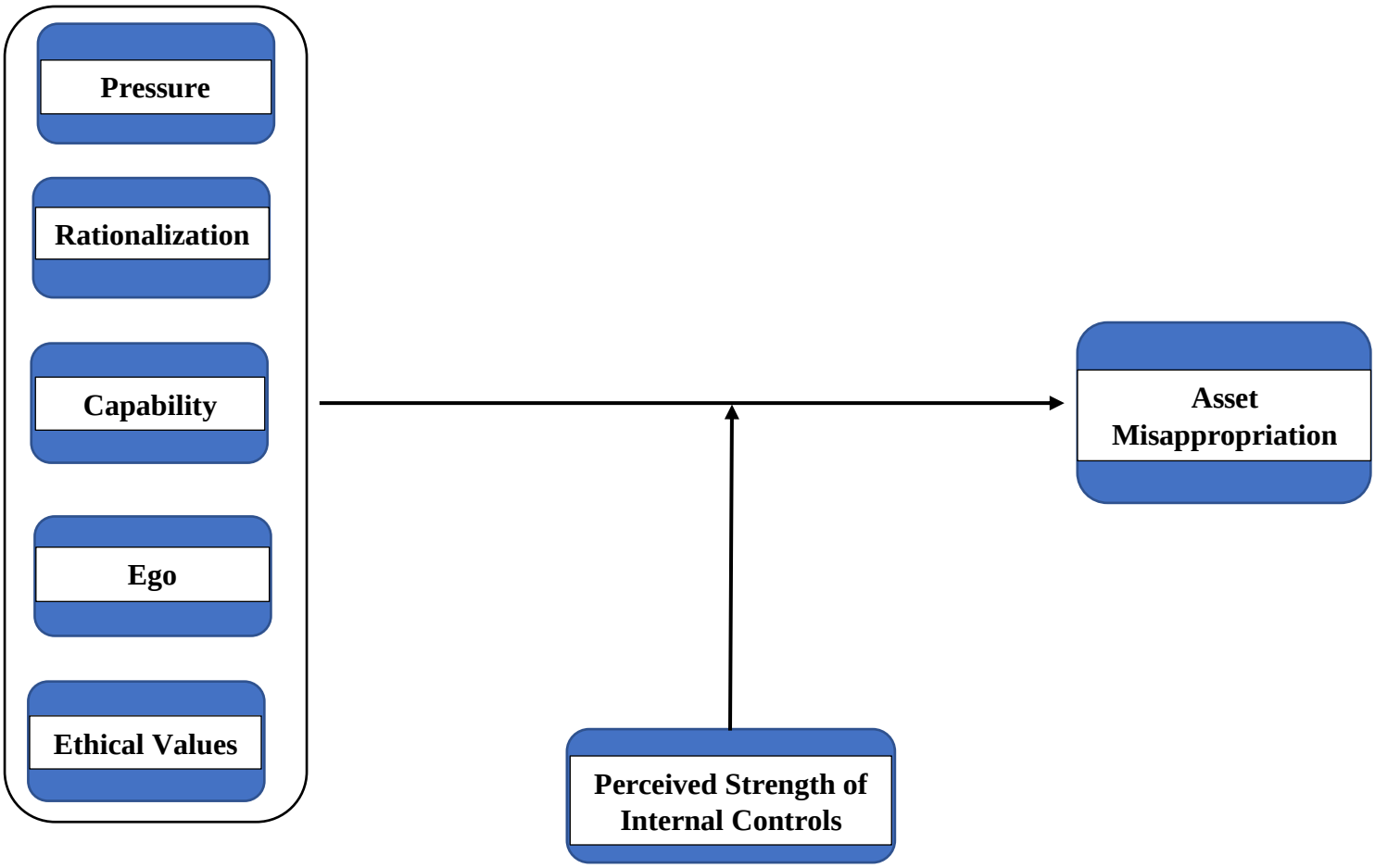


Figure 2.4: Conceptual Framework

Based on this conceptual framework, the following hypotheses will be tested:

H_1: Pressure has a significant and positive effect on asset misappropriation

H_2: Rationalization has a significant and positive effect on asset misappropriation

H_3: Capability has a significant and positive effect on asset misappropriation

H_4: Perceived strength of internal control has a significant and negative effect on asset misappropriation

H_5: Ego has a significant and positive effect on asset misappropriation

H_6: Ethical values have a significant and negative effect on asset misappropriation

H_7: Perceived strength of internal controls moderates favourably the relationship between pressure and asset misappropriation

H_8: Perceived strength of internal controls moderates favourably the relationship between rationalization and asset misappropriation

H_9: Perceived strength of internal controls moderates favourably the relationship between capability and asset misappropriation

H_{10}: Perceived strength of internal controls moderates favourably the relationship between ego and asset misappropriation

H_{11}: Perceived strength of internal controls moderates favourably the relationship between ethical values and asset misappropriation

2.7 Hypotheses Development

2.7.1 Pressure and Asset Misappropriation

Individuals misappropriate assets when they experience some form of financial or non-financial pressures which they do not intend to share. The non-shareable nature of these forms of pressure pushes such individuals to do whatever it takes to get out of the situation, including fraudulent acts (Cressey, 1953). Individuals can have very high expectations and targets from work which poses a lot of pressure on them. Organizations may also face certain pressures which trickle down to employees (Lokanan, 2015). Some pressures may arise from conditions outside the workplace. Individuals who have family and friends who depend on them can be faced with the pressure to meet the needs of these family members or friends. As a way of reducing or managing such pressures, some individuals may end up misusing the assets of the organization (Cressey, 1953; Omar & Mohamad Din, 2010; Global Fraud & Examiners, 2016).

Researchers have found that people usually engage in fraudulent activities because they are faced with some form of pressure (Albrecht, Turnbull, Zhang, & Skousen, 2010; Ruankaew, 2016; Said et al., 2017). Ruankaew (2016) clearly states that every fraud perpetrator must have faced some kind of pressure to commit fraud. Theoretically, pressure has been found to be a great influencing factor for fraudulent acts to occur. The fraud triangle theory, the fraud diamond theory and the S.C.O.R.E. model for fraud all highlight pressure as a factor that causes individuals to engage in fraud. In line with these findings, this study proposes that individuals misappropriate assets at the workplace when they are faced with some form of pressure, either personal or work-related, financial or non-financial, to alleviate such pressures. Hence, it is hypothesized in this study that:

H_1: Pressure has a significant and positive effect on asset misappropriation

2.7.2 Rationalization and Asset Misappropriation

Most people who engage in fraudulent activities, especially acts such as misappropriation of assets, often rationalize by holding the belief that their actions were needful or causes no harm to others (Ruankaew, 2016; Vousinas, 2019). Misappropriating assets at the workplace is easy for some individuals because they make excuses that justify their actions and make them maintain a mindset that they have done nothing wrong and are still trusted persons (Cressey, 1953; Hooper & Pornelli, 2010).

Empirically, several studies (Jackson et al., 2010; Ruankaew, 2016; Vousinas, 2019) have concluded that rationalization has important implication on the occurrence of fraud and that individuals who are not able to provide justifications for their wrongdoings are unlikely to engage in fraudulent activities Rationalization is even more evident with first-time fraud offenders.

Findings from Cressey (1953) report that most individuals who were engaged in some fraudulent acts for the first time justified their wrongdoings. Thus, the extent to which an individual can rationalize acts deemed to be wrong may be an important predictor of why some individuals misappropriate assets at the workplace. The study, therefore, hypothesizes that:

H_2: Rationalization has a significant and positive effect on asset misappropriation

2.7.3 Capability and Asset Misappropriation

It is often easier to engage in fraudulent acts such as asset misappropriation when the perpetrator is in a position that gives him or her access to the resources of the firm. Also, individuals need to possess certain traits and abilities that would enable them to misappropriate assets at the workplace without being caught (Wolfe & Hermanson, 2004). Individuals misappropriate assets when they can understand and exploit internal control systems so they are not detected, or if caught, they are confident they will get out of it easily and can deal with any stress thereafter (Albrecht et al., 1995). Existing studies on fraud have found a positive relationship between fraud and capability (Mackevicius & Giriunas, 2013; Albrecht, Williams, & Wernz, 1995; Kassem & Higson, 2012; Abdullahi & Mansor, 2015). Similar to these studies, this study hypothesizes that:

H_3: Capability has a significant and positive effect on asset misappropriation

2.7.4 Perceived Strength of Internal Control Systems and Asset Misappropriation

The occurrence of fraudulent actions at the workplace is largely due to the opportunities created in the control systems that makes room for individuals to take commit the fraudulent act (Cressey,1953). Thus, individuals misappropriate assets at the workplace because they believe the

internal control systems at the workplaces are weak and hence, they will not be detected. When the internal controls are strong, however, it serves as a deterrent to the occurrence of fraud. Individuals do not get the chance to misappropriate assets as they know they will be exposed by the internal systems.

Existing studies posit that when individuals perceive that the opportunities that make room for the occurrence of fraud are sealed due to strong internal controls, their initial willingness to engage in fraudulent acts such as asset misappropriation would be lost and therefore, they will not engage in such acts (Holtfreter, 2004; Jokipii, 2010; Le & Tran, 2018). Accordingly, this study hypothesizes that:

H_4: Perceived strength of internal control has a negative association with asset misappropriation

2.7.5 Ego and Asset Misappropriation

The average individual attaches some level of importance to what others think of them because of their ego. Individuals often work at building a status in life which they aim to maintain. Because people cherish and do not want to lose their status, especially one of power, they may involve themselves in certain activities just to keep their ego (Vousinas, 2019). Findings from some existing studies demonstrate that fraud perpetrators are often egoistic (Pedneault, Silverstone, Rudewicz & Sheetz, 2012). In line with the proposition by Vousinas (2019), this study posits that individuals with a strong sense of attachment to their status in life are likely to involve themselves in acts of misconducts such as misappropriation of their organization assets. The reason is that

such individuals would want to maintain their status and hence, may be willing to engage in acts that may be fraudulent. Therefore, this study hypothesizes that:

H_5: There is a positive relationship between ego and asset misappropriation

2.7.6 Ethical Values and Asset Misappropriation

Various industries and professional bodies have established codes of ethics that are binding on organizations that belong to the industry. Most organizations, therefore, adapt these codes of ethics to generate ethical standards that are expected to direct the way their employees behave at the workplace. Some individuals are guided by personal ethical stance that informs their actions. What is right or wrong, good or bad, all depends on the ethical lens from which a person looks.

The interest of researchers in the study of ethics heightened after the world witnessed the collapse of large corporations which was associated with lack of ethical display by some employees of these corporations (Low, Davey, & Hooper, 2008; Tang & Sutarso, 2013). Findings from these studies suggest that people engage in fraudulent acts because they do not have ethical values or they do not respect the ethical codes at their workplaces. However, individuals with strong ethical beliefs hardly commit fraud (Awang & Ismail, 2017; Mintz, 2006; Said, Alam, et al., 2018; Said et al., 2017). Hence, the study hypothesizes that:

H_6: Ethical values have a significant and negative effect on asset misappropriation

2.8 The Moderating Role of Perceived Strength of Internal Control Systems

In this study, the variable "perceived strength of internal control" is used and not "opportunity". Oman & Din (2010) argues that an organization's internal control system is a good determinant of

employees' decisions to commit any fraudulent activity within the organization. Internal controls are what create or seal the opportunity for fraud in an organization (Oman & Din, 2010; Kassem & Higson, 2012). When internal controls are strong, all loopholes that may give room for the occurrence of fraudulent activities in the workplace are sealed therefore minimizing the rate of fraud at the workplace. However, when internal controls are weak, people can take advantage of the opportunities created in the loose systems to engage in fraudulent activities. According to COSO (2013), internal control is understood as a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance. Internal control includes five components, control environment, risk assessment, information and communication, control activities and monitoring (Foster & Schandl, 2019).

Drawing from the updated 2013 COSO framework, Foster & Schandl (2019) describe the control environment as a set of standards, processes, and structures that provide the basis for carrying out internal control across the organization; risk assessment requires management to consider the impact of possible changes in the internal and external environment and to potentially take action to manage the impact; control activities are actions, preventive or detective, that help management mitigate risks to ensure the achievement of objectives; information obtained or generated by management from both internal and external sources are communicated to disseminate important information throughout and outside of the organization and to support the internal control components; and lastly, monitoring activities are periodic or ongoing evaluations to verify that each of the components of internal control is present and functioning.

The construct perceived strength of internal control, as used in the study, comprises indicators that reflect these five components of internal control. The study measures perception because internal

controls need not be real; once an individual believes that such internal controls are weak or non-functional, he or she may take advantage to engage in fraudulent activities. On the contrary, when an individual perceives that there are strong internal control systems in place, they may not engage in any fraudulent activities because of the fear of being exposed. Hence, the study examines individuals' perception of the strength of the internal controls in their organizations and how that can influence the extent to which they misappropriate assets in the presence of the identified factors.

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CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter outlines the procedure and methods with which the researcher addresses the research objectives. The chapter is organized into several sections. The first section discusses the researcher's paradigm followed by the research design, unit of analysis, a discussion on the population and sample size and the sampling technique. The chapter continues with a discussion on the type of data and the sources of data collected, the questionnaire design, how the key constructs of the study are measured among others. The chapter concludes with a discussion of the data analysis technique employed.

3.1 Research Paradigm

Researchers are guided by a set of beliefs, values and techniques which are shared by members of the scientific community they belong to, and which dictates the kinds of problems they address and the types of explanations they deem acceptable. These beliefs, values and techniques give rise to several paradigms which form the fundamental philosophical assumptions which define what valid research is and the appropriate methods that can be applied in that research (Myers & Avison, 2002). A paradigm is defined as "the basic belief systems or worldview that guides the investigator" (Guba & Lincoln, 1994, p. 105). Many paradigms have emerged in social sciences research and includes positivism, interpretivist, realism, relativism and critical realism (Orlikowski & Baroudi, 1991; Sarantakos, 1998; Myers & Avison, 2002; Kim, 2003). However, the two most dominant paradigms that reflect the major theoretical directions in business studies and business-related research are positivism and interpretivism (Mark, Philip, and Adrian, 2009).

The positivist research paradigm is often associated with a quantitative research approach and holds the view that there is a single, objective and tangible reality (Creswell, 2009). Thus, their ontology is that there is a single perspective to reality; hence reality is objective, independent of social values and interests, as well as the researcher's own biases. With regards to epistemology (nature of knowledge generated), positivists believe that knowledge generated is objective, free of time influences and is context-independent. Researchers who subscribe to the positive paradigm view themselves as neutral observers who do not influence the outcome of the research with their personal values, beliefs and biases (Guba & Lincoln, 1994). To enhance objectivity of the data collected and analyses made, researchers distance themselves from the respondents (Bryman & Bell, 2007). Again, positivists consider science as the only valid approach by which knowledge is created. Researchers who subscribe to positivism formulate research questions and hypotheses and then test them empirically under carefully controlled and scientific circumstances. Such researchers employ a deductive reasoning approach to studying phenomena (Boateng, 2016).

Interpretivism, however, is the belief that multiple realities exist and is subject to human experiences and interpretation. Thus, the ontology of interpretivism is that reality is socially constructed. Unlike positivism, the epistemology of interpretivism is that knowledge generated is subjective, time-bound and context dependent. Interpretivists creates knowledge by identifying the various interpretations and constructions of reality that exist and attempting to establish patterns. Such researchers, therefore, use an inductive logic approach to study a phenomenon.

This study identifies with the positivists view because the nature of study objectives could better be investigated by reference to the philosophical assumptions of the positivists and the study seeks to generalize the findings of the study.

3.2 Research Design

The research design is the overall outline of strategy and procedure implemented to integrate the various components of the research towards achieving the objective of the study (Broadhurst, Holt, & Doherty, 2012). It details the techniques adopted for the data collection, measurement and analysis of the data. Thus, research design shows a logical structure of investigation that stipulates how data will be collected, measured and subsequently analyzed to respond to the specific research objectives of interest explicitly.

According to Creswell (2013), research designs are the plans and procedures that span decisions from broad assumptions to a detailed method of data collection and analysis. Depending on the nature of the research, either as quantitative, qualitative or mixed, the appropriate research design is used. According to Denzin & Lincoln (2005), qualitative researchers study and interpret things based on the understanding people give to them. This approach of research design tries to understand situations in their uniqueness. With qualitative research methods, data collection method varies and could include unstructured or semi-structured questionnaire techniques. Other common methods of data collection include observation, focus groups discussions, individual interview and participation (Boateng, 2016). Creswell (2013) further classifies qualitative research into five major groups: narrative research, phenomenology, ethnographies, grounded theory and case study.

Quantitative research design, on the other hand, is typically for testing theories by examining the relationships among variables of study' (Creswell, 2009, p.3.). Quantitative research seeks to confirm hypotheses about phenomena. It uses instruments which are more rigid in analyzing responses and methods used for collection of data are highly structured. It also quantifies variables and predicts the causal relationship between variables. (Creswell, 2013). Quantitative research can

be through the use of surveys or by conducting experiments (Creswell, 2009). The mixed method research combines both the qualitative and quantitative forms to achieve the objectives of the study.

The study adopts the quantitative approach due to the nature of its objectives and the philosophical assumptions underlining the study. As such, the study uses a deductive theory-based research process where theories and specific research hypotheses are tested to establish relationships and find differences among the variables of the study. The study also employs the survey method where information is solicited from the respondents to describe the constructs of the study and examine the relationships among the various constructs. Moreover, Yin (1994) posits that the most suitable method for studies that try to answer questions on who or what is the survey research methodology. The study seeks to answer, 'what the determinants of asset misappropriation are' and hence the survey method is most appropriate.

3.3 Unit of Analysis

The unit of analysis of a study refers to the level of aggregation of the data collected in a research (Sekaran, 2003). It is the main entity on whom the researcher studies a phenomenon. The unit of analysis is also seen as the subject of study about which a researcher may generalize. There are three units of analysis: individual level, firm level and country level. The unit of analysis of a study has implications for measurement and analysis of constructs and hence should be clearly defined. This study particularly examines the determinants of asset misappropriation with focus on employees of corporations. Thus, the study focuses on individuals and hence, the unit of analysis is at the individual level.

3.4 Population and Sample Size

Population refers to a complete set of groups of objects or elements which are relevant to a research and from which a sample could be drawn for a research study (Hair, 2011; Saunders, Lewis & Thornhill, 2012). The population for the study constitutes all individuals who are working, irrespective of the sector, industry or type of organization. Organizations in Ghana can be classified broadly under two main sectors: private and public. Notwithstanding, organizations, either private or public, can be classified to belong to one of these business industrial sectors: Accountancy, Advertising, Financial Services, Construction, Electricity and Power, Shipping and Logistics, Health and Medical, Manufacturing, Legal, Media, Mining, Oil and Gas, Real Estate, or Telecoms.

The targeted population of the study includes individuals working in all these diverse sectors. The diversity of the population has the potential of enriching the data to be used for the study. Most studies of similar nature to this study usually used a specific sector or organization as its population. This study is among the few to draw responses from a wide range of population as these. The respondent group will, however, excludes individuals who used to work but are not working now and those who are yet to start work. This is because the study measures the practice of asset misappropriation currently at the workplace. Hence responses based on past experience or future prospects would not be appropriate.

Drawing from Israel (1992), using a 95% confidence interval, which is the recommended level for social sciences research such as this study, a population size of above 100,000 should use a sample size of at least 400. The population of the study being all individuals working in firms in Ghana is above 100,000. The study, therefore, uses a sample size of at least 900 individuals which is higher than the recommended threshold.

3.5 Sampling Technique

Sampling involves taking a subset from an entire population and the process of doing so is what is referred to as sampling technique (Taherdoost, 2018). Sampling helps to draw conclusions about a population even when it is not possible or practical to observe the entire population (Lowhorn, 2001). Sampling techniques can broadly be grouped into two: probability or random sampling and non-probability or non-random sampling. Probability sampling gives an equal chance to every item in the population to be included in the sample whereas non-probability sampling does not. Probability sample reduces researchers' biases greatly but could be very costly (Taherdoost, 2018).

Non-probability sampling techniques adopted need justification for inclusion by a researcher as it could be prone to the researcher's bias. Simple random, systematic, stratified random, cluster and multi-stage sampling are the most dominant probability sampling techniques whereas quota, snowball, convenience and purposive sampling are the most dominant non-probability sampling techniques. The choice of sampling largely depends on the research design adopted by the study. Whilst quantitative research design typically employs the probability sampling techniques, the qualitative research design usually adopts the non-probability sampling technique. A well selected sample is of importance to research as the sample purports to generalize the characteristics of the entire population in relation to the phenomenon under study. Hence, the technique used in sample selection is key to ensure that the data is collected for a research.

The sample selection of the respondents for this study was done in two phases. In phase one, workers reading a post-graduate course at the University of Ghana Business School were engaged. The essence of this engagement was to identify the various sectors in which they work. The outcome of this exercise showed that the various sectors in the country were well represented in the graduate business school. The workers studying in this graduate school fell within the sample

for this study. The workers gave their consent to be participants of the study and the data instrument was explained to them. Randomly, the study questionnaires were administered to the workers after permission has been sought from the appropriate authorities. Some of the respondents agreed to serve as an entry point to their various workplaces to gather more responses from their colleagues at their workplaces.

The second phase involved grouping organizations into strata depending on the industry they belong and the similarities in their functions. A sample of organizations from each stratum was randomly selected, visited and questionnaires administered to the employees of the organizations after permission was sorted.

3.6 Data and Sources of Data

The study relied solely on primary data for the purpose of analysis. Primary data refers to data that has been personally observed or collected from the original source by the researcher, specifically to achieve the research objectives (Nicholson & Bennett, 2013). In this study questionnaires were used as the primary data collection tool to elicit information from respondents. Compared with other means of data collection, when properly developed and appropriately administered, questionnaires allow for a standardized measurement of responses from a large number of people which is important for studies that require large sample size.

3.7 Questionnaire Design

The survey instrument entailed well composed questions to help obtain honest responses from the respondents towards the achievements of the research objectives. The questionnaire consisted of two main sections, sections A and B. Section A of the questionnaire asked questions about the

demographic characteristics of the respondents. The section was made of four sequential questions that sought information on the gender, age, type of organization worked in and how long the respondents have worked with their current organizations.

Section B had questions on the variables used in the study measured on a seven-point Likert scale. The section begins with questions on the views of the respondents on the factors proposed to influence individuals to misappropriate assets. Respondents are required to indicate their levels of agreement to each of the questions on Pressure, Rationalization, Ego, Ethical Values and Perceived Strength of Internal Control. The section ends with statements that highlight some uses of assets at the workplace that constitute asset misappropriation fraud. The respondents were to indicate how often they engage in these actions with 1 being rarely and 7 being often. Each question began with a preamble to guide the respondents on what information is being sought and to guard against ambiguities.

The questionnaire used for data collection for the study is shown in the Appendix.

3.8 Measurement of Study Constructs

Since the focus of this study was not to develop new scales as part of the research objectives, existing scales from prior research were adapted to measure the key constructs of the study. Where necessary, some of the scales were modified to suit the context of the study and also to properly reflect the objective of the study. The dependent variable of the study "Asset Misappropriation" was measured using the asset misappropriation scale employed by Said, Alam, Karim & Johari (2018). The scale consists of nine indicators that highlight possible uses of asset at the workplace that constitute misappropriation of assets. With respect to Capability and Perceived Strength of Internal Control, the capability and opportunity scales used in Kazemian, Said, Nia & Vakilifard

(2018) were adapted respectively. The capability scale has six indicator items whereas the perceived strength of internal control scale has ten items. The pressure and rationalization scales used in Said, Alam, Karim & Johari were adapted to measure the variables Pressure and Rationalization of the study. The ethical value scale developed by Said, Alam, Ramli & Rafidi (2017) was adapted and used to measure the variable Ethical Value in the study whereas Ego was measured using the self-worth scale developed by Crocker, Luhtanen, Cooper & Bouvrette (2003).

3.9 Ethical Consideration

Prior to the administration of questionnaires to the respondents, the researcher subjected the survey instrument to the Ethics Committee for the Humanities (ECH) of University of Ghana for approval. To assure the participants that the research was undertaken in an ethical manner and puts them at no risk for participating in the research process, it is required of researchers to get ethical clearance of their instrument for studies that involve the collection of information from individuals from the ECH. All the necessary protocols were duly followed and ethical clearance was given before data collection began. The ethical approval was granted by ECH on 18th of December, 2019 for a period of six months (reference no ECH 049/19-20).

3.10 Pilot Study

A pilot study can refer to a mini-version of a study or a trial run done in preparation of the study or the pre-testing or trying out of a particular research instrument such as questionnaires and interview guides (Baker, 1994). In research, possible risks should be avoided as much as can be, and conducting a pilot study is a best way to do so. It is essential, therefore, not to take the risk of conducting a complete study without a pilot study (De Vaus, 1993). In the current study, the goal of the pilot study consisted of two parts: first was to sort out all practical issues related to the

research instrument; and second, to find out the likely outcome of the study and negative influences on the success of the research. The appropriateness of the survey instrument was first tested and a mini-version of the entire study was also conducted.

3.11 Pilot Testing of Questionnaires

The questionnaires were first pilot tested to understandability of the questions asked and to ensure that the questionnaire items accurately addressed the research questions**.** Pre-testing of questionnaires aids in obtaining information to improve its content, format and sequence (Ikart, 2019). The initial questionnaire was piloted using twenty (20) prospective respondents. This exercise was mainly intended to test the degree of understanding of the questions, the meaning of the questions to the respondents, and the interest of the respondents. Based on the positive feedback received, the questionnaire was revised accordingly to get the final questionnaire used for data collection for the study.

3.12 Pilot Testing the Study

A pilot study was conducted in order to assess the feasibility of the study. The duration and cost of the study, signs of adverse events that could cause the research project to fail, practical problems of the research procedure and likely outcomes of the study are revealed by the pilot study. Ultimately, the researcher was able to improve upon the study design prior to performance of a full-scale research project with the outcome of the pilot study.

In all, 83 out of the 100 questionnaires issued to respondents for the pilot study were received. The algorithm results revealed that the model used in the study was both reliable and valid as all the recommended thresholds for attaining validity and reliability were met. The results also showed

that the factors proposed in the study are determinants of Asset Misappropriation as they explained about 31% of the variation in the construct Asset Misappropriation. The pilot test results also showed that the model was free from multicollinearity issues as all the constructs had VIF values lower than the recommended threshold.

3.13 Administration of Questionnaire

Questionnaires were self-administered to the respondents. Permission was sought from the appropriate authorities for questionnaires to be administered to the postgraduate students who work in various corporations and are currently reading courses in the University of Ghana Business School. Most of the questionnaires given to the students were answered during lecture time as most the lecturers allowed a few minutes for the collection of the data. This increased the return rate of the questionnaires although not all questionnaires received were fully completed. Some questionnaires were also administered to other students during tutorial sessions and break times. Some of the students aided in the data collection by serving as a link between the researcher and their colleagues at their workplaces or by introducing the researcher to the necessary authorities at their workplaces from whom permission was sort to administer questionnaires to the employees of the organizations. Other organizations were also visited at random and permission was sought to administer questionnaires to their staff.

In all, a total of 1,300 questionnaires were administered to individuals who work in various organizations out of which 1,019 were returned representing a response rate of 78%. However, not all the 1,019 questionnaires received were used for the analysis as some were either incomplete or not answered appropriately. The exclusion criterion was to exclude all observations for which most

questions on the main constructs of the study were not answered. Thus, questionnaires with less than 90% answered questions for each of the constructs of the study were excluded. After the exclusions, 883 questionnaires were used for the analysis, representing 87% of the total responses received.

3.14 Data Analysis Technique

The data collected was first analyzed using descriptive statistics and subsequently using inferential statistics. Descriptive statistics describe the characteristics of the respondents and their responses to the questions while inferential statistics test the main hypotheses of the study and allows the researcher to make predictions. The descriptive analysis was done in Statistical Package for the Social Sciences (SPSS), where a numeric presentation of the features of the respondents and the sample data was generated in a table form. Subsequently, the study employed the Structural Equation Modelling (SEM) technique, specifically, Partial Least Squares-Structural Equation Modelling (PLS-SEM) technique to examine the predicted relationships among the study constructs.

3.15 Structural Equation Modelling

To test for the main hypotheses of the study the Structural Equation Modelling (SEM) technique was employed just as was used in other studies (Mindra et al., 2017; Nguyen, 2016; Owusu, Bekoe, Koomson & Simpson, 2019). SEM enables researchers to evaluate measurement models and structural paths more efficiently. SEM provides a platform for effective evaluation of the overall fitness of the study model and structural paths among constructs (Hair et al., 2012; Wong, 2013). SEM is found to be particularly useful in evaluating complex model relationships simultaneously

(Afthanorhan, 2013) and more suitable for studies that employ latent or unobserved variables (Astrachan, Patel & Wanzenried, 2014). As surmised by Hair et al. (2017), a proper application of SEM provides numerous superior advantages over the first generation of analysis techniques such as principal component analysis, factor analysis, cluster analysis, analysis of variance and multiple regression.

There are two main approaches to SEM: Covariance-based SEM (CB-SEM) and Partial Least Square SEM (PLS-SEM) (Afthanorhan, 2013; Sarstedt et al., 2014). The choice of which of these approaches to use depends mainly on underlying statistical assumptions and the nature of test or validation of the measurement models (Gefen, Straub, & Boudreau, 2000).

3.15.1 Co-variance Based Structural Equation Model (CB-SEM)

According to Hair et. al (2010), the CB-SEM focuses on estimating a set of model parameters that minimizes the differences between the theoretical and estimated covariance matrices. As a technique used mainly to confirm or reject theories (Hair et al., 2017), the CB-SEM approach requires specifying the theoretical model first before analyzing the data (Binz et al., 2014). Thus, application of CB-SEM is appropriate when testing and confirming models with strong prior theories. CB-SEM follows a maximum likelihood (ML) estimation procedure and aims at reproducing the covariance matrix i.e., minimizing the difference between the observed and estimated covariance matrix, without focusing on explained variance (Hair et al., 2011a, p. 139).

3.15.2 Partial Least Square Structural Equation Model (PLS-SEM)

PLS-SEM is used to develop theories in exploratory research by focusing on explaining the variance in the dependent variables when examining the model (Hair et al., 2017 p.4). PLS-SEM is a more "regression-based" estimation method that minimizes the residual variances of the explained variable and maximizes the coefficient of determination (R^2) (Hair, Ringle, & Sarstedt, 2011; Hair et al., 2014; Ringle, Sarstedt, Hair, & Pieper, 2012).

Under PLS-SEM, two sets of linear equations define the path models which are the measurement model and the structural model. The measurement model examines the relationship between the constructs and their respective indicators while the structural model specifies the path relation among constructs (Henseler, Hubona, & Ash, 2016). The structural model is estimated after the measurement model parameters are optimised by the PLS-SEM algorithm. By implication, the findings of PLS-SEM can extensively be discussed after examining the measurement model to deal with the unacceptable characteristics.

PLS-SEM has less restrictions than CB-SEM and is viewed as a more robust estimation of the structural model. PLS-SEM is popular in modern research due to its many advantages such as: ability to work with both large and small sample sizes (Afthanorhan, 2013); ability to work with indicators fewer than three (3) and higher than fifty (50) (Binz et al., 2014); the non-assumption of data distribution (Wong, 2013); and ability to work with either formative or reflective constructs or both.

This study relatively views both statistical approaches as complementary rather than competitive. Therefore, in deciding between the CB-SEM and PLS-SEM approach, the study follows the guideline suggested by Hair, Ringle, & Sarstedt (2011) for the appropriate selection of the statistical method.

3.15.3 Guidelines for the Selection of CB-SEM and PLS-SEM

Important guidelines for the selection of CB-SEM and PLS-SEM have been documented in the existing studies to aid researchers avoid the common mistake in their application (Joe F. Hair et al., 2012; Henseler & Chin, 2010; Krishnan, Williams, McIntosh, & Abdi, 2011). The underlying assumptions that determine the appropriateness of one over the other include factors such as the objective of conducting the research; types of measurement model specification (formative or reflective); data characteristics (normality of data, size of data and number of indicators); and the evaluation of the structural model.

3.15.3.1 Objective of the Research

To correctly apply CB-SEM and PLS-SEM, researchers suggest a better understanding of the specific research questions of interest as well as an understanding of the development of each approach (Gefen et al., 2000). Thus, it is important to understand the purpose for which each approach was developed and apply them appropriately. CB-SEM is applicable when the goal is to test theories or to compare alternative theories while PLS is more suited if the goal is predicting key target constructs of interest or an extension of an existing structural theory. PLS-SEM is more appropriate when the research objective focuses more on prediction or explanation of constructs.

3.15.3.2 Reflective and Formative Constructs (Measurement Model Specification)

The choice of either PLS-SEM or CB-SEM is also determined by the measurement model specification. Existing studies (Binz et al., 2014; Freeze & Raschke, 2007; Henseler & Chin, 2010) suggest that the measurement model specification can either be reflective or formative depending on the directional relationship between the indicators and the construct.

Generally, with a reflective model the construct exists independently of the indicators (item measure). The underlying construct is seen as a function of the indicators (item measure), and variations in the construct cause variations in the indicator (item measure). A typical reflective model is represented by the direction of arrows pointing from the constructs towards the indicators (Binz et al., 2014; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Further, a study's objective to predict or explain the observed measure requires a reflective model to minimize the trace of residual variance in the measurement model.

In contrast, the construct of a formative model is dependent on the combination of its indicators. Variation in the construct does not cause variation in the indicators (item measures) but rather a variation in the indicators (item measures) cause variation in the construct. Thus, formative models assume that the indicators form the underlying construct. A typical formative model is represented by arrows that point from the indicators (measurement variables) towards the construct (Coltmana, Devinneyb, Midgleyc, & Venaikd, 2008).

Thus, an understanding of the nature of construct (whether formative or reflective) can be useful in assisting the researcher to make an informed judgment as to which approach is most appropriate. Prior studies (Joe F. Hair et al., 2012; Henseler & Chin, 2010) conclude that CB-SEM is appropriate for only reflective construct while PLS-SEM accommodates appropriately both a formative and reflective constructs.

3.15.3.3 Data Characteristics and Algorithm

Existing studies also suggest that a better understanding of the data characteristics is critical to the selection of an appropriate method to adopt and ensures a valid and reliable measure of all

constructs (Binz et al., 2014). First, Hair et al. (2011) suggest that the sample size considerations have important implications. If the sample size is relatively low, then PLS-SEM is more appropriate, otherwise, both approaches are appropriate for a samples size larger than the minimum requirement. Second, the complexity of the structural model is an important determinant of the approach to use. CB-SEM is suitable if the indicator variables that remain after internal consistency are more than three and less than fifty, while PLS-SEM can be adopted for both relatively lower and higher indicators. Finally, with respect to the data distributional assumption, CB-SEM assumes a normal distribution. PLS-SEM however, does not make any distributional assumptions and can, therefore, be appropriate for both a normal and non-normal data distribution.

3.15.3.4 Quality of Structural Model

In deciding which of the SEM approaches to use, an analysis of the quality of the structural model is necessary. Even though both approaches facilitate simultaneous analysis of evaluating structural relationships, they both use different analysis when assessing the quality of the structural model. The CB-SEM fit, for instance, is based on accurately estimating the observed covariance matrix and seeks to minimise the variances between the theoretical and estimated covariance (Hair et al., 2011). Therefore, the CB-SEM demonstrates how a projected model fits the sample that has been drawn from the population.

On the other hand, PLS-SEM fit is based on explained discrepancies in the endogenous constructs (Hair et al., 2014). This approach is more appropriate for prediction and theory building studies since it provides parameter estimates that maximize the explained variance of the dependent construct (Hair et al., 2011). It also seeks to demonstrate how a proposed model fits the sample drawn from the population of a particular study.

This study adopts the PLS-SEM approach to test the structural relationships among the study constructs. This is because the goal of the study is to predict the impact of the constructs of interest on one another, which can best be done using PLS-SEM. The study also seeks to maximize the explained variance of the dependent variable which PLS-SEM is built to do. To eliminate assumptions of normality, the study employs the PLS-SEM approach which considers the distribution of the data. Although CB-SEM can equally be employed for reflective models as used in this study, the study uses the PLS-SEM approach due to the aforementioned strengths of PLS-SEM over CB-SEM.

3.16 Assessing the Measurement Model

Before proceeding with the structural model analysis, the literature suggests a test on each construct's measurement characteristics to determine whether they meet the recommended thresholds (Urbach & Ahlemann, 2010). The goal of assessing the measurement model is to achieve an adequate level of construct validity and reliability. According to Cronbach & Meehl (1955) and Lewis, Templeton, & Byrd (2005), establishing the quality criteria of the measurement model is accomplished by testing the internal consistency, indicator reliability, convergent validity and discriminant validity.

3.16.1 Internal Consistency Reliability

Internal consistency is generally defined by the indicator reliability and certain reliability formulas (Cronbach & Meehl, 1955). The indicator reliability is assessed using the indicator loadings. Hair, Babin, Anderson, & Rolph (2010) recommend that indicator loadings of 0.70 and above is an appropriate threshold for an indicator to be included as a measure of the construct. However, if all

other diagnostic tests such as validity and reliability assessment are met, then indicator loadings of 0.4 and above are also deemed appropriate.

Based on existing studies (Nunnally & Bernstein, 1978; Urbach & Ahlemann, 2010; Werts, Linn, & Joreskog, 1974), the internal consistency reliability of the study constructs is evaluated using the Cronbach alpha (CA) and Composite reliability (CR) scores. Cronbach alpha or Composite reliability scores of 0.7 and above is the recommended threshold for a construct to be considered as reliable. Cronbach alpha simply assumes all indicators within a construct have the same weight and meaning (Cronbach, 1971). In contrast, the Composite reliability takes into account that the indicators with different factor loadings have different meanings and hence uses the loadings obtained from the model for its computations (Hair et al., 2012). This makes the CR a stronger measure of reliability than the CA.

3.16.2 Convergent Validity

Convergent validity is the degree to which the various indicators of a construct correlate with one another (Lewis et al., 2005). Although correlations among the construct indicators provide an evidence of convergent validity, sufficient convergent validity is measured using the Average Variance Extracted (AVE). According to Hair et al. (2011), the recommended AVE score for constructs to meet the convergence validity is 0.5 and above. A higher AVE suggests that on the average, the construct is able to explain more than half of the variance of its indicators and this provides sufficient evidence of convergent validity (Urbach & Ahlemann, 2010).

3.16.3 Discriminant Validity

Discriminant validity test determines whether the indicators of study constructs are distinct from one another in the path model (Lewis et al., 2005; Tajeddini, 2016; Urbach & Ahlemann, 2010). Thus, discriminant validity tests check for the display of sufficient differences in the indicators (measure) of a construct. Unlike convergent validity that tests the degree to which indicators measure the construct, discriminant validity evaluates if indicators of a construct could measure another construct better. Thus, high indicator correlation for a construct suggests evidence of convergent validity whereas a high indicator correlation among constructs suggest a lack of discriminant validity (Guo, Aveyard, Fielding, & Sutton, 2008). In existing studies on the use of PLS-SEM (Fornell & Larcker, 1981; Henseler & Ringle, 2009), discriminant validity is commonly measured using the Fornell–Larcker criterion and the cross-loadings.

The Fornell–Larcker criterion measures the correlation among constructs (Fornell & Larcker, 1981). The approach assumes that a construct shares more variance with its own indicators than with any of the other study construct. Hence the square root of the AVE of a particular construct should be higher than its correlation with the other constructs in order for the Fornell–Larcker criterion to be satisfied.

Cross-loadings approach estimates the correlation between constructs and other indicators apart from their own. The rule of thumb is for constructs not to correlate with other indicators better than correlating with their own indicators (Chin, 1998a). Thus, while the Fornell–Larcker criterion measures discriminant validity using the variances between constructs and its own indicators, cross loading does the same by assessing the variance between constructs and other constructs indicators.

3.17 Assessing the Structural Model

Having established the suitability of the constructs by means of the reliability and validity tests in the measurement model assessment, the study proceeded to assess the structural model. The structural model is assessed to provide evidence that the hypotheses established by the structural model are supported by the data collected (Urbach & Ahlemann, 2010). This then permits an evaluation of the structural relationships among the study constructs. Nevertheless, before proceeding to test the hypothesized relationships, the structural model is assessed to test its ability to predict the endogenous constructs. Multicollinearity tests, the coefficient of determination (R^2) and predictive relevance of the model are carried out in assessing the structural model.

To test the existence of multicollinearity prior to testing the hypotheses of the study, the Variance Inflation Factor (VIF) is highly recommended (Henseler & Ringle, 2009). The VIF assesses the collinearity among the study's construct and provides an intuitive indication of the effects of multicollinearity on the variance of a regression coefficient (O'Brien, 2007). To conclude that the structural model analysis is not affected by multicollinearity problems, the VIF values for the constructs in the study should be below the recommended threshold of 10 (O'Brien 2007).

Another important assessment measure of the structural model is the coefficient of determination (R^2) of the dependent variable (Henseler & Ringle, 2009). The R^2 indicates the degree of predictive accuracy of the (endogenous) dependent variable by showing the percentage of variance explained by the (exogenous) independent variables. The PLS path model can either be described as substantial, moderate or weak (Chin, 1998a) depending on how much the variance in the endogenous construct is explained by the exogenous construct. Hence, a weak R^2 establishes that the conceptual model is incapable of explaining the endogenous construct.

Next, the model's predictive relevance is examined by adopting Hair et al. (2014) blindfolding rules. The blindfolding procedure after having calculated the model's parameter, omits some part of the data and estimates the same omitted part with the previously calculated parameters (Henseler & Ringle, 2009). The recommended guideline is that the cross-validated redundancy (Q^2) of the model should be greater than zero to have predictive importance (Sarstedt et al., 2014).

Finally, to test the study hypotheses, a resampling procedure known as the bootstrapping is used to determine coefficient and significance of the paths in the structural model. The PLS-SEM approach does not assume data distribution with respect to their indicators or error terms. In this regard, a bootstrapping routine determines the confidence intervals and the significance of PLS path modelling estimates by drawing a large number of subsamples (usually 5000) from the original data of the study and re-estimates the model for each subsample. In general, the bootstrap technique handles the observed sample as if it represents the population by providing an estimate of the shape, spread, and bias of the sampling distribution (Henseler & Ringle, 2009).

CHAPTER FOUR

ANAYSIS AND DISCUSSION OF RESULTS

4.0 Introduction

This chapter presents the results of the empirical analysis and discusses the findings of the study. First, descriptive statistics of the demographics of the respondents and the constructs used in the study are presented and discussed to give an elaborate of the characteristics of the data collected. Next, the analysis of the empirical findings is presented using statistical tools extensively discussed in the methodology section. The results of the validity and reliability tests of the measurement model are first discussed. Subsequently, the results of the analysis of the structural model, specifically the Variance Inflation Factor (VIF), the coefficient of determination (R^2) and the predictive relevance (Q^2) and the regression results, are presented and discussed.

4.1 Descriptive Statistics of Respondents

Table 4.1 presents results on the descriptive statistics of the respondents. The results show that the respondents of the study had an almost even distribution of males and females as males were only 3% more than females. The study sample was largely youthful as about 74% of the respondents were 35 years or below. In terms of working experience, a good number of the respondents (approximately 47%) have worked with their respective organizations for over 3years. This is an indication that most of the respondents have a considerable amount of working experience. With regards to the type of organizations the respondents worked in, about half of the respondents came from financial institutions or manufacturing and retail firms (51.2%). Specifically, 29.3% of the respondents work in financial institutions (mostly banks and insurance companies), while close to 22% worked in manufacturing or retail firms.

Exactly 11% of the respondents came from practicing accounting firms and nearly 12% of the respondents were from educational institutions (11.9%). Approximately 7% of the respondents were health workers followed closely by the extractive and energy industry (mining, oil and gas and energy firms) which had a 6% representation. The security and telecommunication industries both had close to 6% of the respondents from the sectors, 5.5% and 5.8% respectively. The results show that the respondents include individuals from diverse sectors in the country which demonstrates that the study sample is a reasonable representation of the population of interest.

Table 4.1: Descriptive Statistics on Respondents

Measure	Item	Frequency	Percentage (%)
Gender	Male	467	52.9
	Female	416	47.1
Age	30 and below	458	51.9
	31-35	197	22.3
	36-40	132	14.9
	41 and above	96	10.9
Years of Working	Less than 3 years	469	53.1
	3-4 years	169	19.1
	5-6 years	67	7.6
	More than 6 years	178	20.2
Type of Org	Financial institution	259	29.3
	Manufacturing and Retail	193	21.9
	Accounting firm	97	11.0
	Educational	105	11.9
	Extractive and Energy	53	6.0
	Health	59	6.7
	Security	49	5.5
	Telecom	51	5.8
	Others	17	1.9

4.2 Descriptive of Constructs

Table 4.2 presents the views of the respondents on asset misappropriation at their workplaces and the factors that influence the misappropriation of assets. The mean scores and standard deviations of the indicators and the overall mean scores of the constructs are reported in Table 4.2. The average scores for the indicators under each construct measure the degree of importance respondents attach to that indicator. With respect to the determinants of asset misappropriation, all the factors had mean scores above 4 which indicate that Pressure, Rationalization, Capability, Ego, Ethical Values and Perceived Strength of Internal Controls are important when discussing misappropriation of assets.

The dependent variable of the study, asset misappropriation, had an overall mean of 2.81. A mean score of 2.81 for a seven-point Likert scale is an indication of the existence of the occurrence of asset misappropriation at the workplace based on the respondent's views but not to a high extent. Thus, the respondents rarely engage in the activities used to measure asset misappropriation in the study. Most of the respondents admitted, however, that they often use office time, internet service, computer and printer for personal use which makes the indicators use of office internet, computers and printers the most common forms of asset misappropriation. Most of the respondents also reported that they do not file fictitious medical expenses as the indicator "file medical expenses that may not be entirely true" had the lowest mean score of 1.90. In the Ghanaian context, it is a common fact that many of the organizations do not have provision of medical care included in their employment benefits giving employees of these organizations no basis for filing for medical expenses. Moreover, most of the organizations that have the responsibility of providing medical care to their employees often have specific medical services and centers their employees are allowed to access for free and hence, minimizes the chance for workers to forge wrong medical

expenses for reimbursement. It is not surprising, therefore, that the indicator "file medical expenses that may not be entirely true" had the lowest mean score of 1.90. The results also indicate that most employees, generally, are guilty when it comes to the use office time for personal purposes usually in a form of taking long hours for break, arriving to work late and leaving earlier than closing time. The data gathered also revealed that people are of the habit of taking home items from the office for their personal use.

The construct Pressure had an overall mean of 4.52 which suggests that the respondents agree to a large extent with the statements that describe different sources of pressure that drive individuals to engage in fraudulent activities at the workplace. The results thus, demonstrate that the sampled respondents are largely faced with some form of pressure either from family members or at the workplace. Among all the pressure indicators, the statement "my work needs me to achieve key performance indicators (KPIs) given by the company" had the highest mean score of 5.54. This posits that most individuals need to achieve strict targets at their various workplaces which poses a lot of pressure on them. People, therefore, work tirelessly to attain these targets, as often one's inability to achieve these targets results in loss of jobs. The study also found that most individuals usually work on various tasks simultaneously, which poses even more stress on them. Interestingly, the study found that most of the respondents manage to meet the targets given to them no matter the amount of pressure posed on them as the indicator "I am often unable to meet the targets given me" had the lowest mean score. This could be because individuals are used to these constant pressures and hence find ways to do their work irrespective of the level of pressure they face.

A mean score of 4.24 for the construct rationalization indicates that individuals indeed rationalize their actions most of the time. Out of the 10 indicators that were used to measure the construct rationalization, the indicator "I believe I must help a family member or loved one who is in need of financial aid" had the highest rating with a mean score of 5.61 and a standard deviation of 1.65 whereas the indicator "I only borrow the asset of the office, and I will return it when I am done" had the lowest rating with a mean score of 3.10 and a standard deviation of 2.26. This is an indication that most individuals misappropriate assets mainly because they believe they must help others in need and not necessarily because they had the intent to borrow and return them. Again, the study found that most individuals think they are underpaid at work and hence using the assets of their organizations serve as compensation for their insufficient remuneration.

Overall, the construct capability had the highest rating in the study with an overall mean score of 5.11. Thus, individuals believe they have certain traits that set them apart from others at their workplaces. Most organizations work at attaining customer satisfaction which often translates to enhanced profitability. Hence, employees who are able to meet customer needs often have special places within their organizations. The indicator "my ability to solve the problems of customers/clients makes me trusted by my employers" having the highest mean score of 5.50 in the capability construct confirms this assertion. Such employees win the trust of their employers which could lead to less or no supervision of their activities in the organization which can be a basis for them to misappropriate assets. Although above average (mean = 4.73), the indicator "my position provides me with access to resources of my organization" had the lowest mean score.

With respect to the construct ego, all the indicators have mean scores above average i.e. above 3.5 which signifies that individuals care about their status in life and would want to maintain it.

"Whenever I follow my moral principles, my sense of self-respect gets a boost" having the highest mean score of 5.81 suggests that individuals would engage more in moral acts to enhance their self-respect. Again, although the results show that the respondents care what others think of them, most do not allow what others think of them to have an effect on what they think of themselves. This is seen in the indicator "what others think of me has an effect on what I think about myself" recording the lowest mean score of 3.70.

Ethical values had an overall mean score of 4.71 which means that the respondents are in strong agreement with the statements measuring an individual's ethical values in the study. Thus, the respondents have a high ethical stance that should shape their conducts. Individuals are expected to act morally when they have high ethical values. The results support this expectation as the indicator "when a choice has to be made between what is right and what benefits me, I would choose what is right" was rated highest by the respondents (mean = 5.74). Notwithstanding, when doing the right thing or telling the truth involves paying a price, individuals are not likely to act morally (mean= 3.31).

From Table 4.2, the construct perceived strength of internal control, which is used as a moderating variable in the study, had an overall mean of 5.03 which stipulates that most of respondents perceive there are strong internal controls at their work places. Thus, individuals believe that there are measures that have been put in place at their work places to provide reasonable assurance of work done and to detect any wrongdoings by employees. Largely, organizations ensure that transactions within their firm are authorized by a superior and are well documented as an internal control mechanism (highest mean=5.60). Most organizations, however, do not have a good closed-circuit television system to monitor the activities of employees (lowest mean=3.96).

Table 4.2: Descriptive Statistics of Constructs

	Constructs/Indicators	Mean	Std. Dev.
	Pressure	**4.52**	
P1	My work poses a lot of pressure on me	4.77	1.90
P2	My work needs me to achieve key performance indicators (KPIs) given by the company	5.54	1.75
P3	I have different tasks that must be done simultaneously	5.31	1.79
P4	I am often unable to meet the targets given me	3.39	2.05
P5	I am faced with tension and frustration because of the constant pressure at work	3.76	2.05
P6	Expenses on necessities need to be cut off sometimes to ensure that my salary will be sufficient until the end of the month	4.64	2.06
P7	Family expenses are extremely costly, which I cannot afford to pay in some cases	4.12	2.07
P8	I am fully responsible to support my family financially	4.31	2.20
P9	The increasing costs of living nowadays make me stressed	4.85	1.95
	Rationalization	**4.24**	
R1	I think that I am underpaid with the amount of responsibility given to me at work	4.78	2.07
R2	I believe I must help a family member or loved one who is in need of financial aid	5.61	1.65
R3	Sometimes, I find myself in a desperate financial situation although my organization makes so much money	4.44	1.98
R4	I believe my organization owes me money, looking at what I do	4.27	2.17
R5	I only borrow the asset of the office, and I will return it when I am done	3.10	2.26
R6	Using office assets serves as a reward for my efforts	3.25	2.21
R7	Using office assets for personal purposes hurts no one	3.56	2.27
R8	I am using the office asset for a good purpose even if it is for my personal use	3.95	2.24
R9	I believe that I should be given some discretion in performing my job	4.77	1.79

R10	I believe that a gift from a customer, a vendor, or a colleague is a gesture of good service rendered by me	4.63	2.13
	Capability	**5.11**	
C1	I have the ability to convince other staff to go along with my suggestions	5.02	1.69
C2	My ability to multitask makes me superior at the workplace	5.01	1.75
C3	My ability to solve the problems of customers/clients makes me trusted by my employers	5.50	1.52
C4	I have influence over situations in my department because I believe I am good at what I do	5.36	1.62
C5	My position provides me with access to resources of my organization	4.73	1.93
C6	I can deal with stress very well	5.06	1.58
	Ego	**4.96**	
E1	I care what other people think of me	4.65	2.02
E2	What others think of me has an effect on what I think about myself	3.70	2.12
E3	I care if other people have a negative opinion about me	4.42	2.07
E4	My self-esteem would suffer if I did something unethical	5.46	1.75
E5	My self-esteem depends on whether or not I follow my moral/ethical principles	5.24	1.78
E6	I can’t respect myself if I don’t live up to a moral code	5.14	1.85
E7	Whenever I follow my moral principles, my sense of self-respect gets a boost	5.81	1.53
E8	Doing something I know is wrong makes me lose my self-respect	5.27	1.86
	Ethical Values	**4.71**	
EV1	I do not compromise with my ethical principles	5.50	1.79
EV2	When a choice has to be made between what is right and what benefits me, I would choose what is right	5.74	1.58
EV3	My ethical action depends on the situation I am in	4.12	2.18
EV4	The more I think about a situation, the more ethical my decision will be	5.21	1.72
EV5	My definition about what is right or wrong depends entirely on my personal belief	4.83	1.98

EV6	I should be allowed to form my own ethical standards because ethical consideration varies from one individual to another	4.27	2.05
EV7	I won't tell the truth if I know I will have to pay a price for it	3.31	2.16
	Perceived Strength of Internal Control	**5.03**	
PIC1	Every transaction has sufficient documentation and approval by an appropriate more senior member of staff	5.60	1.71
PIC2	Transactions are recorded within the stipulated time frame	5.52	1.63
PIC3	Separation of roles and responsibilities is clear	5.48	1.71
PIC4	Proper supervision, monitoring, and review of work are implemented	5.31	1.73
PIC5	Policies, procedures, and guidelines are well documented and communicated to employees proactively	5.01	1.89
PIC6	Closed-circuit television (CCTV) is used to monitor all activities	3.96	2.38
PIC7	There are proper records and documentation for all resources	5.18	1.86
PIC8	There is proper supervision over usage of organization's facilities such as telephones and internet connections	4.66	1.98
PIC9	Physical controls of use of asset are sufficient	4.69	1.87
PIC10	There is proper supervision to prevent employees from abusing medical certificates and other employment incentives	4.86	1.92
	Asset Misappropriation	**2.81**	
AM1	Take some resources of the organization	2.71	2.182
AM2	Use office time for personal work	3.09	2.183
AM3	Do not comply with all policies regarding asset usage	2.75	2.112
AM4	Borrow cash/cash equivalent for personal use	2.24	2.067
AM5	Borrow office assets for personal purposes	2.63	2.131
AM6	Use the Internet service of the office for personal purposes	3.79	2.335
AM7	Bring home office assets for personal use	2.57	2.151
AM8	Use the computer and printer of the office for personal use	3.64	2.306
AM9	File medical expenses that may not be entirely true	1.90	1.677

P- Pressure; R- Rationalization; C- Capability; E- Ego; EV- Ethical Values; PIC- Perceived Strength of Internal Control; AM- Asset Misappropriation

4.3 Assessment of Measurement Model

In using the Partial Least Squares approach, the technique evaluates the quality of the measurement model and estimates the parameters of the structural model. The validity and reliability of the measurement model are first tested before proceeding to examine the relationships within the structural model. In this section, the findings on each of the analysis used to measure the validity and reliability of the measurement model are presented.

4.3.1 Indicator Reliability

The indicator reliability was evaluated using the cross loadings of the indicators of the respective construct. Results as shown in Table 4.5 demonstrate that the loadings of all the indicators of each construct (values boldened) are above 0.5 which is the required minimum loading according to Hair et al. (2014). This is an indication that the questions used in measuring the study constructs are reliable.

4.3.2 Internal Consistency

The test for internal consistency was carried out after satisfactory results were obtained from the indicator reliability assessment. Internal consistency measures the extent to which a set of indicators measure the same construct. The most common measures of internal consistency of constructs are the Cronbach Alpha (CA) and the Composite Reliability (CR). However, in PLS SEM, the preferred measure is the composite reliability (Chin, 1998a). Hair, Sarstedt, Ringle & Mena, 2012 report that CR is superior to CA as CA assumes that all the indicators are weighted equally which may not be the case. CR, however, uses the indicator loadings obtained from the measurement model itself. The internal consistency of the measurement model is valid when the

CR or CA of each of the constructs meets the recommended threshold of 0.7 (Hair et al., 2011; Nunnally & Bernstein, 1978). Table 4.3 indicates adequate internal consistency as the CR and CR values range from 0.70 to 0.94, all not below the recommended threshold of 0.7.

4.3.3 Convergent Validity

As suggested by Fornell & Larcker (1981), the Average Variance Extracted (AVE) criterion was used to assess the convergent validity of the measurement model. The recommended threshold of the AVE is 0.5 and above which means that each construct should explain more than half of the variance in their set of indicators. The results in Table 4.3 show that all the AVEs exceeded 0.5 and hence all the constructs in the measurement model demonstrate adequate convergent validity (Hair et al., 2011).

Table 4.3: Cronbach Alpha, Composite Reliability and AVE

Factor	CA	CR	AVE
Asset Misappropriation	0.93	0.94	0.63
Pressure	0.72	0.86	0.78
Rationalization	0.80	0.85	0.51
Capability	0.70	0.77	0.54
Ego	0.81	0.87	0.69
Ethical Values	0.71	0.81	0.52
Perceived Strength of Internal control	0.90	0.91	0.53

CA-Cronbach Alpha; CR-Composite Reliability; AVE-Average Variance Extracted

4.3.4 Discriminant Validity

There are three approaches to assessing the discriminant validity of constructs: the Fornell and Larcker criterion, the heterotrait- monotrait (HTMT) approach and using the cross loadings. The most common criterion to assess the discriminant validity in practice however, is the Fornell and Larcker (1981) criterion. This method compares each construct's AVE value with the squared correlation of a construct with all other constructs in the structural model.

The Fornell-Larcker criterion recommends that a construct should have the square root of its AVE greater than the correlations between the constructs. From Table 4.4, the square roots of the AVEs as shown in the diagonals are higher than the correlations between the constructs shown beneath the values in the diagonals. Thus, the results met the recommendation by Fornell & Larcker (1981) and present evidence of discriminant validity.

Table 4.4: Fornell and Larcker Criterion of Discriminant Validity

	AM	C	E	EV	PSIC	P	R
AM	0.795						
C	0.190	0.740					
E	0.239	0.181	0.730				
EV	0.399	0.180	0.288	0.727			
PSIC	-0.258	0.211	0.000	-0.101	0.730		
P	0.358	0.137	0.305	0.302	-0.052	0.719	
R	0.535	0.308	0.226	0.410	-0.081	0.338	0.756

AM-Asset Misappropriation; C-Capability; E-Ego; EV- Ethical Values; PSIC-Perceived Strength of Internal Control; P- Pressure; R-Rationalization

The second approach used in examining the discriminant validity is the HTMT. According to Henseler, Ringle & Sarstedt (2015), it is the average of the correlation of the indicators in a construct. The recommended threshold for establishing discriminant validity using the HTMT approach has been is an issue of controversy in existing literature. Whilst some researchers recommend that the correlation between constructs should be below 0.85 (Clark & Watson, 1995) to achieve discriminant validity, others recommend 0.90 (Gold, Malhotra & Segars 2011). The results as shown in Table 4.5 have values below both recommended thresholds and hence discriminant validity is adequately achieved in the study.

Table 4.5: HTMT Criterion of Discriminant Validity

	AM	C	E	EV	PSIC	P	R
AM	-						
C	0.203	-					
E	0.210	0.272	-				
EV	0.402	0.264	0.297	-			
PSIC	0.236	0.305	0.110	0.161	-		
P	0.404	0.150	0.312	0.361	0.089	-	
R	0.544	0.474	0.221	0.473	0.123	0.411	-

AM-Asset Misappropriation; C-Capability; E-Ego; EV- Ethical Values; PSIC-Perceived Strength of Internal Control; P- Pressure; R-Rationalization

Although a less rigorous approach, the cross-loadings should show that each indicator has higher loadings on its own construct than any other construct to achieve discriminant validity (Hair et al., 2012). Table 4.6 shows that discriminant validity was achieved as the cross loadings of the constructs (boldened) are higher on their own compared to other constructs in the model.

Table 4.6: Cross Loadings

	AM	C	E	EV	PSIC	P	R
AM1	**0.825**	0.213	0.192	0.321	-0.216	0.272	0.450
AM2	**0.822**	0.119	0.194	0.272	-0.261	0.265	0.381
AM3	**0.791**	0.124	0.149	0.286	-0.280	0.298	0.360
AM4	**0.854**	0.112	0.208	0.338	-0.249	0.318	0.416
AM5	**0.873**	0.168	0.195	0.319	-0.225	0.302	0.470
AM6	**0.661**	0.228	0.224	0.242	-0.107	0.165	0.350
AM7	**0.844**	0.138	0.168	0.319	-0.239	0.295	0.424
AM8	**0.744**	0.208	0.164	0.238	-0.112	0.215	0.401
AM9	**0.729**	0.008	0.127	0.276	-0.230	0.227	0.310
C1	0.060	**0.588**	0.131	0.050	0.210	0.024	0.195
C2	0.064	**0.637**	0.133	0.069	0.166	0.086	0.186
C5	0.201	**0.926**	0.129	0.185	0.144	0.111	0.313
E1	0.073	0.175	**0.732**	0.096	0.118	0.137	0.096
E2	0.266	0.126	**0.941**	0.298	-0.083	0.251	0.223
E3	0.116	0.153	**0.799**	0.168	0.041	0.214	0.129
EV3	0.222	0.174	0.224	**0.717**	0.011	0.208	0.294
EV5	0.128	0.199	0.147	**0.594**	0.132	0.133	0.168
EV6	0.233	0.139	0.195	**0.738**	-0.043	0.163	0.304
EV7	0.375	0.066	0.202	**0.809**	-0.197	0.251	0.293
PSIC1	-0.276	0.140	-0.043	-0.096	**0.792**	-0.085	-0.092
PSIC10	-0.123	0.111	-0.028	-0.017	**0.644**	-0.008	-0.051
PSIC2	-0.247	0.154	-0.020	-0.083	**0.832**	-0.066	-0.099
PSIC3	-0.148	0.155	-0.024	-0.020	**0.767**	-0.042	-0.020
PSIC4	-0.207	0.220	0.008	-0.088	**0.810**	-0.026	-0.032
PSIC5	-0.235	0.137	-0.021	-0.100	**0.788**	-0.076	-0.070
PSIC7	-0.100	0.191	0.024	-0.009	**0.689**	-0.008	0.017
PSIC8	-0.076	0.124	0.040	0.011	**0.595**	0.017	-0.022
PSIC9	0.035	0.229	0.060	0.090	**0.543**	0.086	0.071
P4	0.280	0.079	0.244	0.228	-0.087	**0.870**	0.266

P5	0.307	0.117	0.210	0.256	-0.036	**0.894**	0.290
R10	0.221	0.310	0.103	0.259	0.028	0.152	0.506
R5	0.435	0.219	0.228	0.289	-0.093	0.283	**0.751**
R6	0.444	0.258	0.145	0.306	-0.114	0.267	**0.829**
R7	0.416	0.192	0.167	0.311	-0.101	0.254	**0.831**
R8	0.342	0.278	0.104	0.282	-0.013	0.190	**0.800**
R9	0.131	0.277	0.098	0.109	0.104	0.174	**0.446**

AM-Asset Misappropriation; C-Capability; E-Ego; EV- Ethical Values; PSIC-Perceived Strength of Internal Control; P- Pressure; R-Rationalization

4.4 Assessment of Structural Model

After establishing that the measurement model is reliable and valid, the structural model was assessed before proceeding to test the hypotheses of the study. This is done by conducting the multicollinearity test, common method bias test, evaluating the coefficient of determination, the predictive relevance and the significance of the path coefficients.

4.4.1 Multicollinearity

Prior to testing the hypotheses of the study, multicollinearity test was conducted by estimating the Variance Inflation Factor (VIF) for each of the constructs (Henseler & Ringle, 2009). Different arguments have been advanced on the acceptable threshold values for the VIF. While Hair et al. (1995) recommends that a VIF value of less than 10 to indicate the absence of multicollinearity problem, other studies (Diamantopoulos & Siguaw, 2006; Hair et al., 2011) suggest that VIF values should be lower than 5 in order to avoid the issue of collinearity. As presented in Table 4.7 the VIF result falls within the recommended threshold with a lower bound of 1.083 and a higher

bound of 1.382. The test results suggest the structural model analysis is influenced negatively by collinearity problems as the VIF values for the constructs were far below the maximum thresholds.

4.4.2 Common Method Bias

The common method bias was assessed as well using the Herman One-Factor Model. This test is conducted because questions that measure both the dependent and independents constructs were answered by the same respondent. Hence, a satisfactory common method bias result ensures that respondents did not provide socially desirable answers. Common method bias does not exist when the percentage variance for the first factor is less than 50% after conducting the Herman One-Factor Model test. The result of the Herman One-factor model test in Table 4.7 shows that the percentage variance for the first factor is approximately 14% which is less than the recommended threshold of 50%. This suggests that the structural model is free from common method bias.

4.4.3 Coefficient of Determination

Also, the coefficient of determination (R^2) was evaluated. The R^2 measures the prediction-oriented goal of the PLS-SEM approach. Existing studies provide several benchmarks to describe R^2. Hair et al. (2012) posit that R^2 values of 0.75, 0.5, 0.25 may be considered substantial, moderate and weak, respectively whereas Chin (1998) suggests that a PLS path model is either substantial (0.67), moderate (0.33) or weak (0.19) depending on the extent of endogenous variance explained by the exogenous constructs. An R^2 of 36.4% was recorded for the study as shown in Table 4.7 This means that 36.4% of the variation in the construct asset misappropriation is explained by the independent variables pressure, rationalization, capability, ego, ethical values and perceived strength of internal control.

4.4.4 Test for Predictive Relevance

The next evaluation of the structural model is the predictive relevance of the model (Q^2) to assess the magnitude and strength of the path model. This was done using the blindfolding procedure in PLS. In estimating the Q^2, the procedure deletes a small section of the data matrix and uses the model estimates to predict that omitted section (Binz et al., 2014; Henseler & Ringle, 2009). The recommended threshold for Q^2 values by Hair et al. (2014) and Sarstedt et al. (2014) are .02, .15 and .35 (small, medium, and large respectively) whiles Chin (1998) and Fornell & Cha (1994) suggest that the Q^2 ought to be above zero so as to predict the relevance of the endogenous construct. With a Q^2 estimation of 0.20 as shown in Table 4.7, the model is assumed to have predictive importance.

Table 4.7: VIF, R^2 and Q^2

Factor	**VIF**
Pressure	1.229
Rationalization	1.382
Capability	1.199
Ego	1.175
Ethical Values	1.302
Perceived Strength of Internal Control	1.083
R^2 (0.364)	
Q^2 (0.199)	
Herman One-factor model test (14%)	

4.5 Path Diagram

Figure 4.1 shows the path diagram that was used as a guide in examining the hypotheses of the study in Smart PLS 3.0. The path diagram is based on the conceptual framework of the study and illustrates the relationships between the variables of interest in the study. Figure 4.1 shows the direct relationships hypothesized between the factors Pressure, Rationalization, Capability, Ego, Ethical Values, Perceived Strength of Internal Control and the main variable of interest Asset Misappropriation.

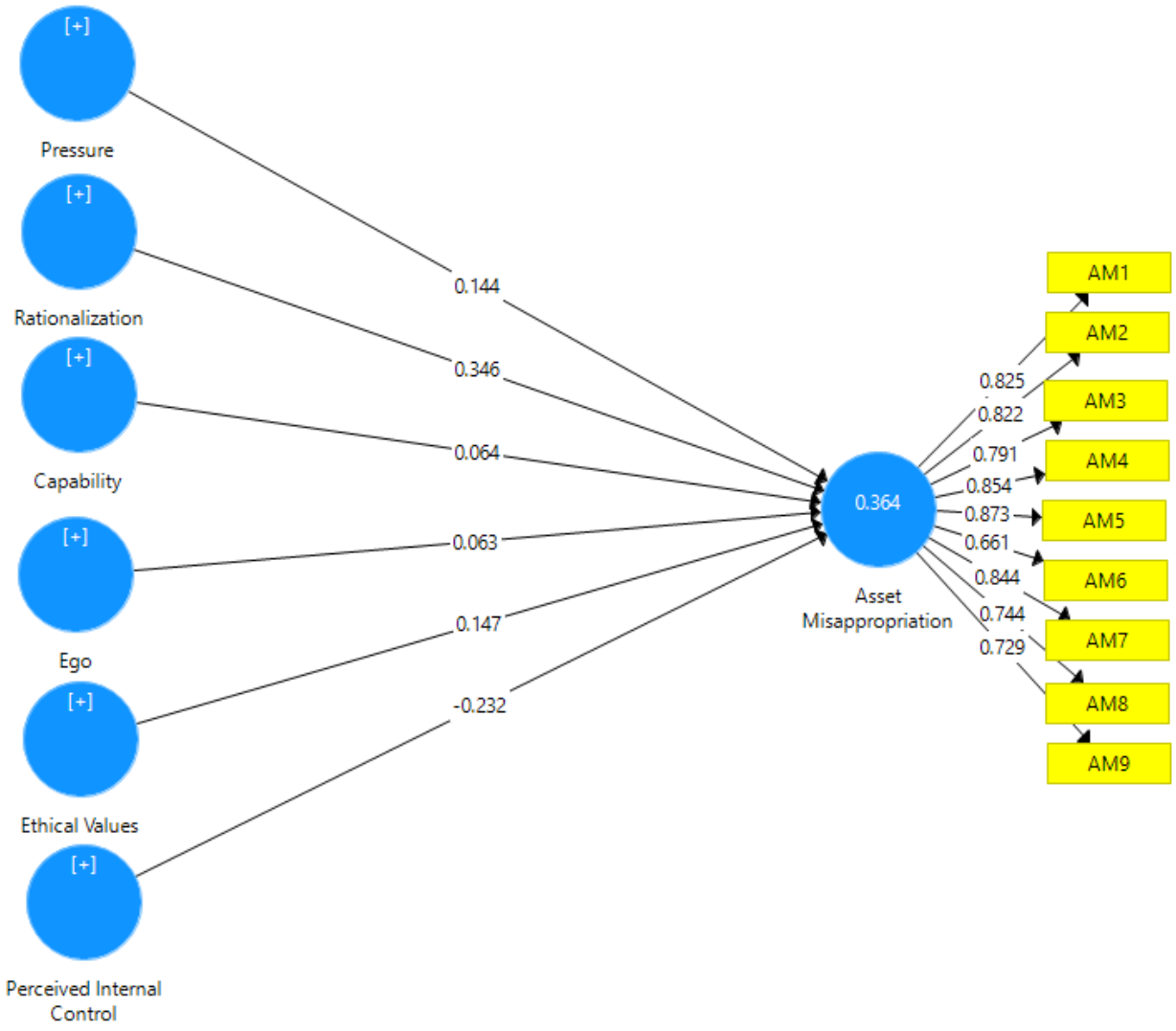

Figure 4.1: Path diagram 1

4.6 Hypotheses Testing

The result of each of the proposed hypothesis is discussed in this section. The initial results that test the existence of the direct relationships between the independent variables and the dependent variable as depicted in Figure 4.1 is presented in Table 4.8.

Table 4.8: Coefficients, P-values for Hypotheses

Hypothesis	Hypothesis Path	Coefficient	P value	Result
H_1	Pressure → Asset Misappropriation	0.144	0.000	Accepted
H_2	Rationalization → Asset Misappropriation	0.346	0.000	Accepted
H_3	Capability → Asset Misappropriation	0.064	0.015	Accepted
H_4	Ego → Asset Misappropriation	0.063	0.009	Accepted
H_5	Ethical Values → Asset Misappropriation	0.147	0.000	Rejected
H_6	Perceived Strength of Internal Control → Asset Misappropriation	-0.232	0.000	Accepted

4.7 Discussion of Results

Table 4.8 presents results from the structural model analysis of the relationships amongst the study constructs. As shown in Table 4.8, all the independent variables had a significant relationship with asset misappropriation. Again, all the independent variables had a positive relationship with asset misappropriation with the exception of the construct 'Perceived Strength of Internal Control'.

4.7.1 The Relationship between Pressure and Asset Misappropriation

The results indicate a positive and highly significant relationship (at 1% significance level) between pressure and asset misappropriation. This is an indication that when faced with intense pressure both from within and outside the working environment, the likelihood of an individual engaging in acts considered to be fraudulent such as misappropriation of a firm's assets will be high. This finding, thus, supports the proposition that the existence of some level of pressure on an individual may explain why sometimes individuals engage in fraudulent activities at the workplace. The explanation is that, an individual who has many tasks to perform at the workplace with strict timelines usually gets frustrated along the way. The frustration with work coupled with

other external pressures (financial pressures from home) could lead to that individual engaging in fraudulent activities at the workplace as a means of dealing with the problem at hand.

From theoretical perspective, most the existing theories on fraud (Fraud Triangle Theory, Fraud Diamond Theory and the S.C.O.R.E. model) generally argue that when individuals find themselves in situations that poses financial/non-financial burdens on them, they tend to seek interim options to solve their problems. Consequently, a major preoccupation for individuals in such situations is to find immediate solutions even if that means engaging in fraudulent activities such as asset misappropriation. Thus, when pressurized, people are more likely to compromise and engage in acts that they would otherwise not involve themselves with. Empirically, the positive relationship between pressure and asset misappropriation are consistent with the evidence provided by several existing studies on fraud (Albrecht, Turnbull, Zhang, & Skousen, 2010; Cressey, 1953; Howe & Malgwi, 2010; Omar & Mohamad Din, 2010; Ruankaew, 2016; Said, Alam, Ramli, & Rafidi, 2017).

4.7.2 Rationalization and Asset Misappropriation

The relationship between rationalization and asset misappropriation also yielded a positive and highly significant relationship between the two constructs. This finding demonstrates that individuals who hold the belief that their wrongful actions are, in fact, needful or cause no harm to others and, therefore, are quick to justify their actions, are more prone to engaging in fraudulent acts at the workplace. The reason is that such individuals usually have a mindset that do not only fail to recognize wrongdoings but also an attitude that justifies their actions as not offensive. For instance, a frequently cited justification for asset misappropriation at the workplace is the notion that it is a means of compensating oneself for poor remuneration by the employer. Such mindsets

developed by people form grounds on which they rationalize their actions by understanding why they have to misappropriate assets and maintaining the belief that they have done nothing wrong.

This finding of the study is supported by theoretical underpinnings for the occurrence of fraud. The Fraud Triangle Theory, the Fraud Diamond Theory and the S.C.O.R.E. model all point to the fact that when individuals are able to justify a fraudulent act prior to execution, the likelihood of them engaging in that act is high. This is because such individuals hold beliefs that necessitate the occurrence of the fraudulent act and alleviates any feeling of guilt. The ability of individuals to rationalize their decisions to misappropriate assets at the workplace provides a ground on which they stand to actually misappropriate assets. Several studies on fraud provide empirical support that rationalization has a positive relationship with fraud (Ghafoor, Zainudin, & Mahdzan, 2019; Kassem & Higson, 2012; Said, Asry, et al., 2018; Kazemian, Said, Nia, Vakilifard & Futter 2019; Vousinas, 2019; Wolfe & Hermanson, 2004). In fact, Jackson et al. (2010) conclude in their study that if a person is not able to provide justifications for his or her wrongdoings, it is unlikely that individual will engage in unethical conducts such as fraud.

4.7.3 Capability and Asset Misappropriation

Similar to pressure and rationalization, the results also show the existence of a positive relationship and highly significant relationship between capability and asset misappropriation. This finding implies that asset misappropriation at the workplace are often committed by individuals in position of influence. It is relatively easier for individuals occupying positions or performing functions within the organization that give them access to the assets of the organization to engage in asset misappropriation. By virtue of their position, such individuals usually have good understanding of the control systems and are able to exploit weaknesses to perpetrate fraud. Moreover, such

individuals are confident that their actions will go unnoticed and even if caught, they will get out of it easily because of their position which invariably emboldens them to engage in such acts. The finding of this study therefore supports the argument that individuals who occupy 'sensitive' positions in an organization and have easy access to the assets of the organization are more capable to misappropriate asset at the work place compared with their peers in less capable positions.

As pointed out by Wolfe & Hermanson (2004), along with opportunity, pressure and rationalization, the fraud perpetrator must have the capability to recognize an open door as an opportunity and take advantage of it. As argued by the proponents of the FDT, the capacity of the individual is a key determinant of the ability to engage in acts of fraud (Wolfe & Hermanson, 2004). The positive relationship between capability and asset misappropriation is consistent with the conclusion by several existing studies that associate capability of individuals with fraudulent act at the workplace (Mackevicius and Giriunas, 2013; Albrecht, Williams, and Wernz, 1995; Kassem and Higson, 2012; Abdullahi and Mansor, 2015).

4.7.4 Ego and Asset Misappropriation

The study found ego to be a positive and significant influencer to asset misappropriation. This finding stipulates that individuals misappropriate assets at their workplaces due to strong egos they have and the quest to maintain such egos. Individuals misappropriate assets if that would help them maintain the power they have over people and situations at the workplace. This supports Duffield and Grabosky (2001) finding that the sensation of power can be a strong motivating force for individuals to commit fraud, in this case, assets misappropriation. The finding is also consistent with that of Allan (2003) that egotists are one of the most common personality types to engage in

fraudulent activities as such individuals often want to succeed at all cost because they care what people think about them.

Ego constitutes a major element of the theory underpinning the study: the S.C.O.R.E. model which opines that in addition to the factors of the fraud diamond theory- pressure, rationalization, capability and opportunity, the ego of an individual is also fundamental in determining why individuals engage in fraudulent activities such as asset misappropriation. The findings of the study, therefore, support the viability of this new theory on fraud.

Some extant studies have also found ego to be a motivating factor for the occurrence of fraudulent activities (Kranacher, Riley & Wells, 2019; Pedneault, Silverstone, Rudewicz & Sheetz, 2012).

4.7.5 Ethical Values and Asset Misappropriation

Contrary to what the study hypothesized and what most prior studies found (Awang & Ismail, 2017; Mintz, 2006; Said, Alam, Karim, & Johari, 2018; Said et al., 2017), ethical values was significant but positively related to asset misappropriation. Thus, individuals misappropriate assets at their workplace irrespective of their ethical stands. In short, from the data collected, ethics doesn't matter. This is rather worrying as it is expected that ethics would shape the behaviour of individuals at their workplaces. The findings of this study can, however, be explained in a more subtle way as most individuals do not consider misuse of assets at the workplace as fraudulent. Therefore, their ethical values do not influence these actions they engage in at the workplace because they see no need to choose between right and wrong.

This finding is, again, not surprising as most of the respondents indicated that they judge what is right or wrong based on their personal beliefs and it is the situation they find themselves in that

will determine their ethical action. While the positive association of ethical values and asset misappropriation does not make sense, it is a wakeup call for researchers to investigate the conditions under which an individual's ethical values will predict behaviour.

4.7.6 Perceived Strength of Internal Control and Asset Misappropriation

In line with the predicted hypothesis of the study, the perceived strength of an organization's internal control system was found to be significant and negatively associated with asset misappropriation. By implication, when workers perceive that the internal mechanisms that monitor their activities are capable of detecting wrongful acts at the workplace, the motivation to engage in fraudulent acts is usually low. This is because the likelihood of being exposed is high in an environment with strong internal control mechanisms. In line with this belief, Holtfreter (2004) concludes that a good internal control system is important in preventing and deterring asset misappropriation schemes from occurring within organizations.

This finding again is consistent with a number of empirical studies which posit that the quality of the internal control mechanisms of an organization remains one of the potent and effective means of reducing the occurrence of fraud at the workplace (Le & Tran, 2018; Jokipii, 2010).

4.8 Moderation Analysis

Having examined the key predictors of asset misappropriation at the workplace, the study further ascertained whether the predicted relationship between the determinants and the variable of interest (asset misappropriation) will change in the presence of the perception of strong internal control systems at the workplace. Thus, this study investigates whether when the strength of the internal control system of an organization is perceived to be adequate, the effect of Pressure,

Rationalization, Capability, Ego, and Ethical Values on asset misappropriation at the workplace will change in some shape or form. Using the construct "perceived strength of internal control system" as a moderator, moderation analysis was conducted and the results are as shown in Table 4.9.

Table 4.9: Moderation Output

Hypothesis	Hypothesis Path	Coefficient	P value	Result
H_7	P * PSIC → Asset Misappropriation	-0.075	0.008	Accepted
H_8	R * PSIC → Asset Misappropriation	-0.092	0.000	Accepted
H_9	C * PSIC → Asset Misappropriation	-0.035	0.111	Rejected
H_{10}	E * PSIC → Asset Misappropriation	-0.056	0.038	Accepted
H_{11}	EV*PSIC → Asset Misappropriation	-0.075	0.003	Accepted

P- Pressure; R-Rationalization; C-Capability; E-Ego; EV- Ethical Values; PSIC-Perceived Strength Internal Control

4.8.1 Path Diagram for Moderation Analysis

Figure 4.2 shows the path diagram that was used as a guide in examining the moderation analysis in Smart PLS 3.0. The path diagram is based on the conceptual framework of the study and illustrates the moderating role of Perceived Strength of Internal Control on the relationships between the asset misappropriation and the factors Pressure, Rationalization, Capability, Ego and Ethical Values.

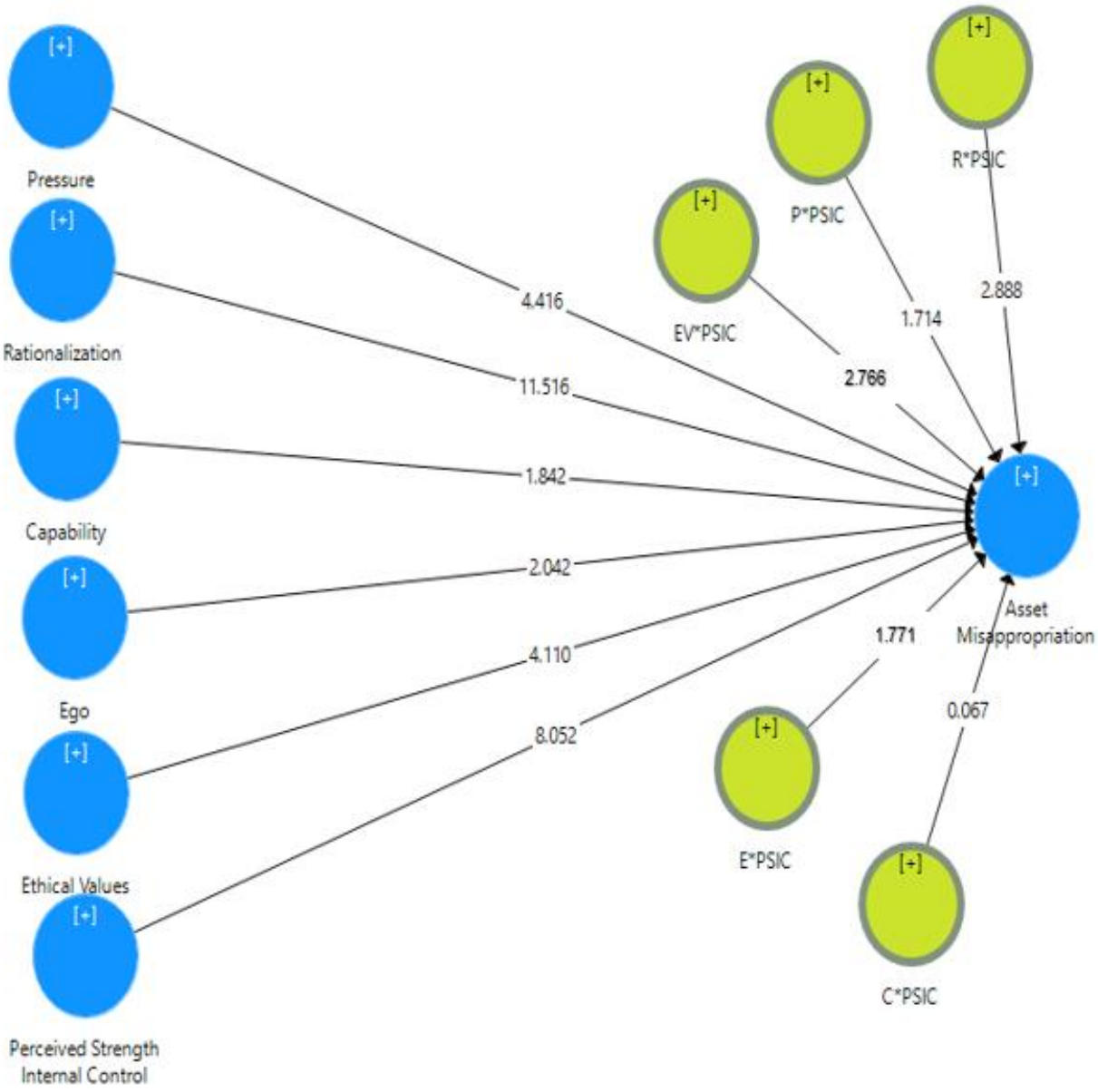

Figure 4.2: Path diagram 2

4.8.2 Pressure, Perceived Strength of Internal Control and Asset Misappropriation

As shown in Table 4.9, the perception of strong internal control system at the workplace moderates favourably the relationship between pressure and asset misappropriation. The moderation analysis resulted in a change in the path coefficient, from a positive relationship to a negative relationship. While pressure on its own was found to be positively associated with asset misappropriation, in the presence of strong internal control mechanism, a negative and highly significant relationship (at 1% significant level) was found between pressure and asset misappropriation. This result implies that even when faced with excessive pressure, there will be no motivation to engage in asset misappropriation if individuals have the perception that control systems in place can detect their actions.

4.8.3 Rationalization, Perceived Strength of Internal Control and Asset Misappropriation

The moderation analysis also shows a highly significant and negative relationship between asset misappropriation and rationalization in the presence of perceived internal control. This result demonstrates that no matter how well individuals can provide reasons to justify their actions as not wrong, when these individuals have a belief or suspicion that their actions could be detected by the internal control systems at the workplace, they would not misappropriate assets.

4.8.4 Capability, Perceived Strength of Internal Control and Asset Misappropriation

The relationship between capability and asset misappropriation yielded an inverse but insignificant results when moderated by the strength of an organization's internal control system. While the negative relationship is consistent with the expectations of this study, the insignificant results is a demonstration that the presence of strong internal control system may not be enough to deter individuals in privileged positions from misappropriating assets. This finding, in part, may be

explained by the fact that individuals in capable position to engage in fraudulent activities usually possess the ability to understand and exploit the internal control systems to their advantage (Kassem & Higson, 2012; Wolfe & Hermanson, 2004). Such individuals are confident that they will not be caught and therefore, may not be too much bothered by the internal control mechanisms in place. For instance, fraud perpetrated by members of the board and its governing bodies is difficult to detect because like management, they have the capability to cover up by virtue of their position (Wolfe & Hermanson, 2004). Internal controls can be circumvented, especially when members of the board and its governing bodies collude with management to perpetrate the fraud. Therefore, it can be difficult to prevent the crime from occurring (Mui & Mailley, 2015).

4.8.5 Ego, Perceived Strength of Internal Control and Asset Misappropriation

As expected, the moderating effect of the perceived strength of internal control on the relationship between asset misappropriation and ego yielded a very favourable result. Based on the moderation analysis, a negative and highly significant relationship was found between the construct ego and asset misappropriation. The change in direction from positive to negative suggests, in the presence of strong internal control systems at the workplace, individuals who would have otherwise misappropriated assets to maintain a certain status in life (egoistic individuals) are unlikely to engage in such acts for fear of being caught. Egoistic individuals are generally concerned about their public image and hence, even if a form of misappropriation could help them maintain the kind of public image they wish to have, the slightest possibility of being exposed would be enough deter them from engaging in such acts. This is because being associated with such fraudulent acts in itself tarnishes the image such individuals seek to create in the eyes of the public.

4.8.6 Ethical Values, Perceived Strength of Internal Control and Asset Misappropriation

While the initial structural model results showed a positive relationship between ethical values and asset misappropriation contrary to the predicted inverse relationship, results from the moderation analysis demonstrate that the perception of the existence of strong internal control systems moderates favourably the relationship. As shown in Table 4.9, there is a negative relationship between ethical values and asset misappropriation when moderated by internal control. This finding means that the ethical stance of an individual alone may not be enough to prevent them from misappropriating assets at the workplace unless the internal control system is perceived to be strong.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.0 Introduction

This chapter summarizes all the major issues discussed in the study. First, the chapter highlights the key findings of the study and its implications. Then, contributions made by the study and the limitations of the study are discussed. The chapter ends with recommendations for practice and future research.

5.1 Summary and Conclusion of the Study

The increased occurrence of fraud cases across the globe heightened the interest of researchers to investigate fraud-related issues. The involvement of employees, managers and sometimes owners of organizations in perpetrating fraud against their own organizations has been on the rise and this has generated intense research interest in occupational fraud. While prior studies acknowledge the existence of different forms of occupational fraud, most existing studies on fraud have focused predominantly on financial statement fraud with little attention on asset misappropriation. The current study attempts to share some new insights into the fraud discourse focusing on asset misappropriation which interestingly has been reported to be the leading form of fraud in terms of frequency of occurrence at the workplace.

Motivated by the apparent lack of research on asset misappropriation as a dimension of occupational fraud, this study sought to investigate the occurrence of asset misappropriation at the workplace in Ghanaian firms and examined the dominant factors that influence individuals to misappropriate assets at the work place. The study further ascertained whether the motivation to

engage in asset misappropriation by individuals at the workplace could, in any way, be affected by the perception of strong internal control systems at the workplace.

Relying on the S.C.O.R.E. model as the theoretical basis, the study hypothesized that pressure, rationalization, capability, ego and ethical values may explain why some individuals engage in asset misappropriation at the workplace. The study further hypothesized that the perceived strength of internal control system at the workplace could moderate favourably the predicted relationship these determinants and the motivation to engage in asset misappropriation. The hypothesized relationships of the study were examined using the Structural Equation Modelling technique. Specifically, the study employed the Partial Least Square- Structural Equation Modelling technique because of its advantages over the Co-variance Based Structural Equation Modelling technique and other 1st generation techniques.

The findings of the study suggest that the occurrence of asset misappropriation exists in organizations in Ghana. However, the level of misappropriation of assets at the workplace is not high. The outcome of the analysis resulted in nine out of the eleven hypotheses of the study being accepted. First, the findings of the study support that pressure has a positive and significant relationship with asset misappropriation. Thus, the study provides evidence to support the argument that individuals misappropriate assets because of certain financial or non-financial pressures they face either at work or from family and friends.

Second, rationalization was found to be positive and significant to misappropriation of assets at the workplace. The findings indicate that people misappropriate assets at the workplace when they can justify their actions as not wrong or consider such wrongful acts as compensation for work

done. Also, capability was positively and significantly related to asset misappropriation. The findings demonstrate that people misappropriate assets when they occupy positions in the organization that give them access to the assets of the firm or have certain traits that gives them the capability to misappropriate assets.

Again, ego was found to have a significant and positive relationship with asset misappropriation. This implies that people misappropriate asset because of their egoistic nature. In a quest to maintain their status in society, people use the asset of their firms to achieve that even if it constitutes misappropriation. Interestingly, the findings of the study posit that some individuals misappropriate assets without regard for their ethical values. Ethical value was found to be significant but negatively related to asset misappropriation.

The moderating effect of the perceived strength of internal controls was evident in the relationships between pressure, rationalization, ethical values, ego and asset misappropriation. The results show that in the presence of a strong internal controls, individuals would not misappropriate assets at the workplace. However, the findings suggest that the presence of strong internal controls does not have an effect on people in capable positions when it comes to misappropriation of assets.

5.2 Implications of Findings

The findings of the study have important implications for organizations and policy makers. The results of the study suggest the occurrence of some level of asset misappropriation in most organizations in Ghana. As the results show, certain factors are responsible for the occurrence of asset misappropriation at the workplace: pressure, rationalization, capability and ego. For instance, individuals misappropriate assets as a means of alleviating some financial/nonfinancial pressures

they are faced with. Some individuals also give justifiable reasons why misappropriating assets is not wrong such as being underpaid or using the assets to help others in need. An understanding of these push factors (pressure, rationalization, capability and ego) is very critical to managers and policy makers in mapping up strategies aimed at reducing the occurrence of fraud at the workplace. For instance, the evidence that individuals who are egoist in nature often tend to engage in fraudulent activities such as asset misappropriation just to keep their status could be a relevant guide to managers in terms of the traits to look up for especially during recruitment.

Again, given that the strength of the internal control system of an organization was found to moderate favourably the relationship between the push factors and asset misappropriation at the workplace, an important way of minimizing the tendency of individuals to engage in asset misappropriation is to enhance the adequacy of internal control system at the workplace. As the results demonstrate no matter how pressurized, egoistic etc. an individual may be, once such an individual perceives his actions could be detected by the existing control systems, the motivation to engage in asset misappropriation will be low. Thus, the establishment of adequate and robust internal control mechanisms at the workplace is one of the potent ways of reducing the occurrence of asset misappropriation at the workplace.

5.3 Contributions

The study makes some important contributions to existing studies on occupational fraud in general and asset appropriation in particular. The study provides some new insights into the fraud discourse by examining the determinants of asset misappropriation, an area in occupational fraud that has

received little research attention despite being the most prevalent among the dimensions of occupational fraud.

Again, unlike most existing studies on fraud, this is among the first studies (to the best knowledge of the researcher) that provides empirical support for the applicability of the S.C.O.R.E model in the fraud discourse. Findings of this study provide empirical support for the inclusion of the construct 'Ego' as a key predictor of asset misappropriation at the workplace. Thus, this study extends literature on the determinants of asset misappropriation by demonstrating with evidence that the ego of an individual matters when examining the factors that influence individuals to misappropriate assets at the workplace.

The study, in addition, introduces a new construct, the perceived strength of internal control, as an intervening variable to examine if the perception of individuals of the strength of internal controls in their workplace (actually the case or not), can influence asset misappropriation at the workplace.

5.4 Limitation of the Study

Despite the contributions the study makes, the findings of the study are subject to some limitations. First, although the measurement instrument used in the study questionnaire are adapted from established scales in literature, the questionnaire structure gives no room for the respondents' personal thoughts on the variables of interest. Second, data was collected at a particular point in time and responses could differ over time.

Third, there could be other factors that influence individuals to misappropriate assets which were not explored in the study. The findings of the study are, therefore, not exhaustive in predicting what causes asset misappropriation at the workplace.

Although the results of the study are not affected in any way by reason of the above limitations, the findings of this study should be interpreted with caution. Based on the discussions of the study findings and the key limitations identified thereof, some recommendations for future research are proposed in the next section.

5.5 Recommendations

First, an important way to extend the knowledge on asset misappropriation is for future studies to examine other determinants of asset misappropriation aside those identified in this study. For instance, research on how organizational commitment, culture, personality traits and job satisfaction influences individuals to misappropriate assets would enrich the asset misappropriation discourse.

Second, future studies could employ other methods in collecting data for this study that allows respondents to share their views on the determinant of asset misappropriation. For instance, in-depth interviews and focus group discussions could be used to explore new insights into what influences individuals to misappropriate assets at the workplace.

Third, future studies can use different research approaches such as a longitudinal study to examine if there will be changes in responses of the respondents over time as their conditions of work and other personal factors change.

Fourth, organizations can be guided by the findings of this study to look out for loopholes within the firm that creates opportunity for the occurrence of fraud and take steps towards ceiling these loopholes. Again, the factors found to influence employees to commit could be a guide to organizations in developing strategies to reduce the occurrence of fraudulent acts within their firms.

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APPENDIX

QUESTIONNAIRE ON THE DETERMINANTS OF ASSET MISAPPROPRIATION THE WORKPLACE

This questionnaire is designed to solicit information on some uses of assets at the workplace and the reasons for such uses. We seek your maximum cooperation and assure you that any information provided will remain confidential. Please respond by ticking the appropriate option in the spaces provided.

SECTION A:

Demographics

1. Gender: Male [] Female []
2. Age: 30 and below [] 31-35 [] 36-40 [] 41 & above []
3. Type of organization you work in? e.g. bank, audit firm, university etc……..……
4. Worked with current organization for: Less than 3 years [] 3-4 years [] 5-6 years [] more than 6 years []

SECTION B:
Pressure

Individuals are pressurized either from within or outside their workplace in many ways. Kindly rate your level of agreement to each of these pressure indicators by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

		1	2	3	4	5	6	7
1	My work poses a lot of pressure on me							
2	My work needs me to achieve key performance indicators (KPIs) given by the company (e.g. target, achievement, workload, waiting time, audit, time frame, and review)							
3	I have different tasks that must be done simultaneously							
4	I am often unable to meet the targets given me							
5	I am faced with tension and frustration because of the constant pressure at work							
6	Expenses on necessities need to be cut off sometimes to ensure that my salary will be sufficient until the end of the month							
7	Family expenses are extremely costly, which I cannot afford to pay in some cases							
8	I am fully responsible to support my family financially							
9	The increasing costs of living nowadays make me stressed							

Rationalization

Below are frequently cited justifiable reasons for individuals' actions at their workplaces. Kindly indicate your level of agreement to each of these justifications by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

		1	2	3	4	5	6	7
1	I think that I am underpaid with the amount of responsibility given to me at work							
2	I believe I must help a family member or loved one who is in need of financial aid							
3	Sometimes, I find myself in a desperate financial situation although my organization makes so much money							
4	I believe my organization owes me money, looking at what I do							
5	I only borrow the asset of the office, and I will return it when I am done							
6	Using office assets serves as a reward for my efforts							
7	Using office assets for personal purposes hurts no one							
8	I am using the office asset for a good purpose even if it is for my personal use							
9	I believe that I should be given some discretion in performing my job							
10	I believe that a gift from a customer, a vendor, or a colleague is a gesture of good service rendered by me							

Capability

The variety in traits at the workplace set others apart from themselves and may give individuals some advantages. Kindly indicate your level of agreement to each statement by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

		1	2	3	4	5	6	7
1	I have the ability to convince other staff to go along with my suggestions							
2	My ability to multitask makes me superior at the workplace							
3	My ability to solve the problems of customers/clients makes me trusted by my employers							
4	I have influence over situations in my department because I believe I am good at what I do							
5	My position provides me with access to resources of my organization							
6	I can deal with stress very well							

Ego

Generic perceptions have a way of affecting one's actions. Individuals have different regard for standards and what others think of them. Kindly indicate your level of agreement to each statement by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

		1	2	3	4	5	6	7
1	I care what other people think of me							
2	What others think of me has an effect on what I think about myself							
3	I care if other people have a negative opinion about me							
4	My self-esteem would suffer if I did something unethical							
5	My self-esteem depends on whether or not I follow my moral/ethical principles							
6	I can't respect myself if I don't live up to a moral code							
7	Whenever I follow my moral principles, my sense of self-respect gets a boost							
8	Doing something I know is wrong makes me lose my self-respect							

Ethical Values

Ethical stance pertains to individuals differently and could be measured severally. Kindly indicate your stance on the following by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

		1	2	3	4	5	6	7
1	I do not compromise with my ethical principles							
2	When a choice has to be made between what is right and what benefits me, I would choose what is right							
3	My ethical action depends on the situation I am in							
4	The more I think about a situation, the more ethical my decision will be							
5	My definition about what is right or wrong depends entirely on my personal belief							
6	I should be allowed to form my own ethical standards because ethical consideration varies from one individual to another.							
7	I won't tell the truth if I know I will have to pay a price for it.							

Perception of Internal Controls

In these instances, describe your perception of the strength of internal controls at your workplace by a [✓] on a 7-point Likert scale with 1= strongly disagree, and 7=strongly agree.

	In my department,	1	2	3	4	5	6	7
1	Every transaction has sufficient documentation and approval by an appropriate more senior member of staff.							
2	Transactions are recorded within the stipulated time frame							
3	Separation of roles and responsibilities is clear							
4	Proper supervision, monitoring, and review of work are implemented							
5	Policies, procedures, and guidelines are well documented and communicated to employees proactively							
6	Closed-circuit television (CCTV) is used to monitor all activities							
7	There are proper records and documentation for all resources							
8	There is proper supervision over usage of organization's facilities such as telephones and internet connections							
9	Physical controls of use of asset are sufficient							
10	There is proper supervision to prevent employees from abusing medical certificates and other employment incentives							

Asset Misappropriation

The statements below highlight possible uses of assets at the workplace. Kindly indicate how often you engage in these actions by a [✓] on a 7-point Likert scale with 1= rarely, and 7=often.

		1	2	3	4	5	6	7
1	Take some resources of the organization							
2	Use office time for personal work							
3	Do not comply with all policies regarding asset usage							
4	Borrow cash/cash equivalent for personal use							
5	Borrow office assets for personal purposes							
6	Use the Internet service of the office for personal purposes							
7	Bring home office assets for personal use							
8	Use the computer and printer of the office for personal use							
9	File medical expenses that may not be entirely true							

THANK YOU