

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF COMMERCE
MASTER OF BANKING AND FINANCE PROGRAMME**

**EFFECT OF FRAUD RISK MANGEMENT PRACTICES
ON PERFORMANCE OF CB BANK IN MYANMAR**

ZIN WAH MYINT

(EMBF- 6th Batch)

DECEMBER 2019

**Effect of Fraud Risk Management Practices on Performance
of CB Bank in Myanmar**

A thesis submitted to the Board of Examiners in partial fulfillment of the requirements for the degree of Executive Master of Banking and Finance (EMBF)

Supervised By:

Daw Tint Tint Lwin

Lecturer

Department of Commerce

Yangon University of Economics

Submitted By:

Zin Wah Myint

Roll No – 73

EMBF – 6th Batch

2017-2019

DECEMBER 2019

ACCEPTANCE

Accepted by the Board of Examiners of the Department of Commerce, Yangon University of Economics, in partial fulfillment for the requirements of the Master Degree, Master of Banking and Finance.

BOARD OF EXAMINERS

Prof. Dr. U Tin Win

(Chairman)

Rector

Yangon University of Economics

(Supervisor)

Daw Tint Tint Lwin

Lecturer

Department of Commerce

Yangon University of Economics

(Examiner)

Prof. Dr. Daw Soe Thu

Professor and Head

Department of Commerce

Yangon University of Economics

(Examiner)

Prof. Dr. Aye Thu Htun

Professor

Department of Commerce

Yangon University of Economics

(Examiner)

Daw Khin New Ohn

Associate Professor

Department of Commerce

Yangon University of Economics

DECEMBER 2019

ABSTRACT

This main aim of this study is to examine the effect of the fraud risk management practices of CB Bank on the bank performance. According to Chartered Institute of Management Accountant (2009), there are three main dimensions of fraud risk management such as Preventive, Detective and Responsive. Each of three practices were identified and examined in this study. This study tried to build up the connection between fraud risk management and performance of CB Bank in Myanmar. Moreover, the target of the examination was to assess the impact of those fraud risk management practices on the performance of CB Bank. The primary data was gathered using the structured questionnaire from 100 management level respondents of CB Bank from branch managers in Yangon, zone/region office and head office departments which was randomly selected, and 80 respondents responded to the questionnaire and returned. The gathered quantitative data was analyzed and examined using the descriptive research method. The relationship between the fraud risk management practices and the bank performance was attained by applying correlation and regression statistics. Moreover, hierarchical multiple regression was applied to examine the moderating influence of the risk culture variable on the relationship between each of the fraud risk management practice and the bank performance. The study showed that CB bank affected by fraud was sometimes prevalent. Regarding the main objectives, the analysis found that the major strategy that the bank apply to mitigate the occurrence of the fraud is reactive because preventive and detective fraud risk management practices are not strong enough to reduce the fraud risk. On analyzing the effect of fraud risk management on the bank performance, there was a correlation between fraud risk management practices and the performance of a bank. The study also found that responding control of fraud risk has a significant impact on both financial and non-financial performance. With respect to examine the moderating effect of risk culture on the relationship between fraud risk management practices and performance of a bank, the study indicated that there was a moderating effect on the responsive fraud risk management practice and the performance of the bank.

ACKNOWLEDGEMENT

A lot of people have contributed to this thesis. I sincerely wish to express my appreciation to each of them.

First, I would like to express my sincere appreciation to Prof Dr. Tin Win, Rector of Yangon University of Economics and Prof. Dr. Nilar Myint Htoo, Pro Rector, Yangon University of Economics, for their concern and kind support to the MBF Program students.

My endless appreciation goes to the Prof. Dr. Daw Soe Thu, Programme Director of the MBF Programme and Head of Department of Commerce for her encouragement and supportive role throughout the course of my study. My thesis could not be done without her kind support and help.

I am deeply indebted to Prof. Dr. Tin Tin Htwe, Department of Commerce. This work would have been incomplete in many respects without her genuine support, guidance and advice.

Special thanks go to the supervisor, Daw Tint Tint Lwin, Lecturer, Department of Commerce, for her valuable support, advice and persistence during the time of thesis period that contributed to the success of this study.

I would like to extend my appreciation and gratitude to all my esteemed professors and lecturers who shared their time and knowledge during my studies in the MBF Programme.

I am grateful to U Oo Thein Myint, Chief Compliance Officer of CB bank for allowing me to do this thesis title and courageously expressing his view. I am thankful to all respondents from CB Bank who took the time to answer and return the questionnaire.

There was no words to express the debt of gratitude towards my husband and family who always supported me physically and mentally and for their continuous understanding, sacrifice and patience throughout this study.

Finally, I thank all my classmates, teammates, particularly my thesis group, for the kindness, encouragement and sharing of the information and for the invaluable friendship.

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
CHAPTER 1 INTRODUCTION	
1.1 Rationale of the Study	2
1.2 Objectives of the Study	4
1.3 Scope and Method of the Study	5
1.4 Organization of the Study	5
CHAPTER 2 THEORETICAL BACKGROUND	
2.1 Concept of Fraud	6
2.2 Causes of Fraud	9
2.3 Fraud Risk Management Practices	10
2.4 Risk Culture	13
2.5 The Performance of a Bank	15
2.6 Previous Studies	16
2.7 Conceptual Framework of the Study	19
CHAPTER 3 OVERVIEW OF FRAUD RISK MANAGEMNT PRACTICES OF CB BANK	
3.1 Overview of Fraud Risk in Banking Sector of Myanmar	21
3.2 Profile of CB Bank	22

3.3	Organization Structure of CB Bank	24
3.4	Experience of Bank Fraud Incidents in CB Bank	24
3.5	Fraud Risk Management Practices in CB Bank	27

**CHAPTER 4 ANALYSIS ON THE EFFECT OF FRAUD RISK
MANAGEMENT PRACTICES ON PERFORMANCE OF CB BANK**

4.1	Research Design	31
4.2	General Information of Fraud in CB Bank	32
4.3	Reliability and Validity Test	36
4.4	Analysis on the Bank Fraud Incidents in CB Bank	38
4.5	Effects of Fraud Risk Management Practices on Bank Performance	41
4.6	Moderating Effect on Relationship Between Risk Culture and Performance	55

CHAPTER 5 CONCLUSION

5.1	Findings and Discussions	59
5.2	Conclusion and Recommendation	61
5.3	Needs for Further Study	62

REFERENCES

APPENDIX

LIST OF TABLES

Table	Title	Page
3.1	Bank Fraud by Gender in CB Bank	25
3.2	Bank Fraud by Age and Gender in CB Bank	25
3.3	Fraud by Role of Fraudster in CB Bank	26
3.4	Bank Fraud by Zone/Region in CB Bank	26
3.5	Total Cost of Fraud in CB Bank	27

3.6	Total Cost of Fraud Amount by Zone/Region in CB Bank	27
4.1	Population and Sample of Employees in CB Bank	33
4.2	Response Rate	33
4.3	Demographic Profile of Respondents	35
4.4	Working Division of Respondents	36
4.5	Adverse Bank Fraud Affected in CB Bank	36
4.6	Background of respondents dealing with fraud	37
4.7	Results of Cronbach's Alpha Value	38
4.8	Causes of Bank Fraud in the Bank	40
4.9	Types of Fraud	41
4.10	Preventive Fraud Risk Management Practices	43
4.11	Detective Fraud Risk Management Practices	44
4.12	Responsive Fraud Risk Management Practices	45
4.13	Bank Performance	46
4.14	Risk Culture	47
4.15	Summary of Fraud Risk Management Practices, Risk Culture and Bank Performance	48
4.16	Relationship Between Fraud Risk Management and Financial Performance	49
4.17	Relationship Between Fraud Risk Management and Non-Financial Performance	50
4.18	Moderating Role of Risk Culture on Fraud Risk Management Practices and Financial Performance	53
4.19	Moderating Effect of Risk Culture on Fraud Risk Management Practices and Financial Performance	54

4.20	Moderating Role of Risk Culture on Fraud Risk	57
	Management Practices and Non-Financial Performance	
4.21	Moderating Effect of Risk Culture on Fraud Risk	58
	Management Practices and Non-Financial Performance	

LIST OF FIGURES

Figure	Title	Page
2.1	Collusion among perpetrators	7
2.2	Types of Internal Fraud	8
2.3	The Fraud Triangle	10
2.4	Effective Fraud Risk Management Framework	11
2.5	Risk Culture Formation – the ABC (Attitude-Behavior-Culture) Model	13
2.6	Conceptual Framework of Effect of Fraud Risk Management Practices on Fraud Risk in Commercial Banks in Kenya	17
2.7	Conceptual Framework of the Relationship between Fraud Risk Management Practices and Financial Performance of Commercial Banks in Kenya	17
2.8	Conceptual Framework of Umaru, Arpah, Effect of Fraud Risk Management, Risk Culture on the Performance of Nigerian Banking Sector	19
2.9	Conceptual Framework of the Study	20

LIST OF ABBREVIATIONS

ACFE	Association of Certified Fraud Examiners
AML	Anti-Money Laundering
ASEAN	Association of South East Asian Nations
ATM	Automatic Teller Machine
CFT	Combating the Financing of Terrorism
CIMA	Chartered Institute of Management Accountants
FATF	Financial Action Task Force
ICT	Information and Communication Technology
IRM	Institute of Risk Management
KYC	Know Your Customer
NDIC	Nigeria Deposit Insurance Corporation
ORMC	Operation Risk Management Committee
PII	Personally Identifiable Information
PWC	PricewaterhouseCoopers
ROA	Return On Asset
SME	Small to Mid-size Enterprise

CHAPTER 1

INTRODUCTION

Fraud is an intentional deception which refers to swindle someone for unlawful financial gain or other benefits. Fraud always includes a false statement, misrepresentation or deceitful conduct. The purpose of the fraud is to gain something of value, usually money, by misleading or deceiving someone into believing something that the perpetrator knows to be false. In addition, fraud includes the acts such as deception, theft, bribery, corruption, forgery, embezzlement, misappropriation, conspiracy, collusion, money laundering, extortion and concealment of material facts (Chartered Institute of Management Accountants, 2008).

Every company is at risk of fraud being private, governmental, profit and non-profit, and even religious. Fraud is one of the most challenges and critical issues in the current business climate (Smith, Omar, Idris, & Baharuddin, 2005). Large-scale fraud has resulted in the collapse of whole companies, massive investment losses, significant legal expenses, the detention of key people and the deterioration of trust in capital markets. However, fraud imposes various costs on its financial and non-financial victims (Rahman & Salim, 2010). The losses in financial transactions, reputational risks and human capital for banking financial institutions could include knowledge of risk of bankruptcy (Idowu, 2009). The fraudulent activity has adversely affected the credibility, trademarks and reputation of many organizations all over the world (Ronaldo Opiyo Ohando, 2014).

The threats of fraud can only increase as globalisation, more competitive markets, rapid technological developments and economic times intensify (CIMA, 2008). Most researchers perform surveys to get organizations all the costs of fraud. The estimated fraud-related losses in India ranged from \$700,000 to \$2.0 million in America. In 2011, the Asia Pacific recorded average loss due to the fraud of \$1.4 million; in Australia and New Zealand, \$1.1 million, in Europe \$1.9 million, Middle East & North Africa (MENA) \$900,000 (KPMG, 2011).

According to KPMG's Global Banking, between November 2018 and February 2019, 61% of the banks surveyed reported an increase in value and amount of external fraud in the last three years. The survey was conducted in the 43 retail banks, 13 of them in the Asia-Pacific region, 5 in the Americas and 25 in Europe, the Middle East and Africa region (EMA). Globally through fraud forms from 2015 to 2018 include

identity theft and account creation, cyber-attack, non-represent card fraud and approved scams for push payments (KPMG, June 2019).

1.1 Rationale of the Study

Since bank fraud is one of the biggest and most significant challenges to public trust and faith in the financial industry, it was one of the main problems for the regulator, but also the public and the financial sector. The establishment of effective anti-fraud programs, detection of methods of conduct and implementation of efficient control measures and guidance for the resolution of fraud not only helps banks avoid loss of revenue and assets, but also improves the quality of their business processes and their status within the world of financial services (Rahman & Anwar, 2014). While banks are becoming increasingly aware of enhancing their fraud risk management system in response to that fraud events, banks are clearly expected to integrate the entire regulatory, legal, credit and operations department (Karthik K.V, 2018). The organization's policy makers aim to comply with the new laws and regulations in order to achieve minimal effect of fraud risk by good corporate governance and internal control. There have recently been several laws and regulations globally, presenting companies with a variety of standards for incorporating fraud and corruption into their activities.

In Myanmar, Fraud and dishonest misrepresentation crimes are primarily protected by the Penal Code (1861), and the telecommunications law (2013) provides for prosecution on the fraudulent case of savings in person or in the form of a social network. In addition, with the implementation of the Money Laundering Eradication Act (2014), money laundry regulation was recently strengthened to support authorities by providing instruments for the recovery and seizure of funds related to illicit or criminal activities. In September 2015 the Central Bank of Myanmar published guidelines for financial institutions on anti-money laundering (AML / CFT) that enforced some recommendations of the International Financial Action Task Force (FATF), as per AML / CFT guidelines from the International Monetary Fund. Financial misconduct can be dealt with via the Foreign Exchange Management Law (2015) and the Myanmar Law (2016) Financial Institutions, both of which concentrate criminal provisions on fraud and other misdeeds committed in financial institutions.

The financial institution sector in Myanmar is growing not only in number of the banks but also in mobile financial services. Currently, there are 44 banks in

Myanmar including 4 stated-owned banks, 27 private local banks, 13 foreign banks branches and 5 mobile financial service providers. While the number of banks in Myanmar are increasing, the more bank fraud cases are also happening nowadays. However, most bank fraud cases happened in Myanmar banks are relatively less known to the public unless the cases are filed to the police and the police makes announcement because the banks are afraid of damaging their reputational image and losing their customers' trust and confidence in banks. On the other hand, there are a few bank fraud cases highlighted in the social media headlines such as four foreigners using fraudulent prepaid cards to withdraw millions of kyats from ATMs in Yangon in 2014, the employees of the private banks have transferred the money from the customers' accounts to their own accounts or their relative accounts, some cash notes are missing from the bank cash packets and so on.

Co Operative Bank (CB bank), the third largest leading private banks in Myanmar in terms of assets and branch network, is also exposing the bank fraud risk. The major types of bank frauds encountered in CB bank are the bank staff withdrawing cash from ATM vaults, customers' accounts and dormant accounts, fraud in domestic remittance such as another customer withdrawing the money, mobile banking fraud happened when the mobile number is wrongly linked to other customer's account, POS fraud by making purchase with fake cards, stolen cards, the bank staff stealing cash from cash packets and so on. As a result, CB bank has developed fraud risk management practices to fight against the fraud. An effective fraud risk management practices can help to increase the confidence of investors, regulators and the public in the financial integrity of an organization in addition to attracting and retaining human and financial resources. In addition, it can not only help to ensure the sustainability of the bank's integrity and reputation but also provide a great corporate culture.

There are many international studies done on fraud risk management practices. For instance, Enfore, Abilogun, Omolorun and Elaiho (2017) examined the measurement of fraud prevention in the Nigeria banking sector and Umaru, Arpah, Muhammad-Bashir (2019) did a study on the effect of fraud risk management, risk culture and performance of banking sector. This study aims to evaluate the influence and consequences of fraud risk management activities.

1.2 Objectives of the Study

The main objectives of the study are:

- To identify the experience of bank fraud incidents in CB Bank and the fraud risk management practices of CB bank in Myanmar
- To examine the effect of fraud risk management practices on the bank performance of CB bank in Myanmar
- To analyze the moderating effect of risk culture on relationship between fraud risk management practices and bank performance

1.3 Scope and Method of the Study

The scope of the study is limited to a selected private local bank in Myanmar, CB bank due to the sensitivity and the confidentiality nature of the financial information and bank reputation. This study applies both an analytical and descriptive method to analyze the fraud risk management practices grouped into three broad dimensions: preventives, detectives and responsive measures. This study also uses on both primary and secondary data. CB bank has 230 branches all over the country. The primary data was collected using the standardized questionnaire with Likert scale from CB Bank's 100 management level interviewees from Yangon's branch managers, area / region office and randomly selected head office departments. The collected data will be analyzed using the Statistical Package for Social Sciences (SPSS). Regression analysis will be used to quantify the relationship between the dependent variable and the independent variables. Most of the data are obtained from secondary sources such as journals, books, publications, social media and web pages.

1.4 Organization of the Study

This study is organized into five chapters. Chapter one includes the introduction, rationale of the study, the problem statement, objectives of the study, scope and method of the study and organization of the study. Chapter two describes theoretical background on fraud, the theory related with the fraud, performance of a bank and risk culture. Chapter three presents the profile of CB bank, the experience of fraud incidents in the bank and how the fraud risk management practices such as prevention, detection, responding and investigation of CB bank works. Chapter four presents the analysis and interpretation of the findings in tables and graphs and the review of the effect of fraud risk management practices of CB bank. Chapter five concludes the study with findings, discussions, suggestions, recommendations and needs for further research.

CHAPTER 2

THEORETICAL BACKGROUND

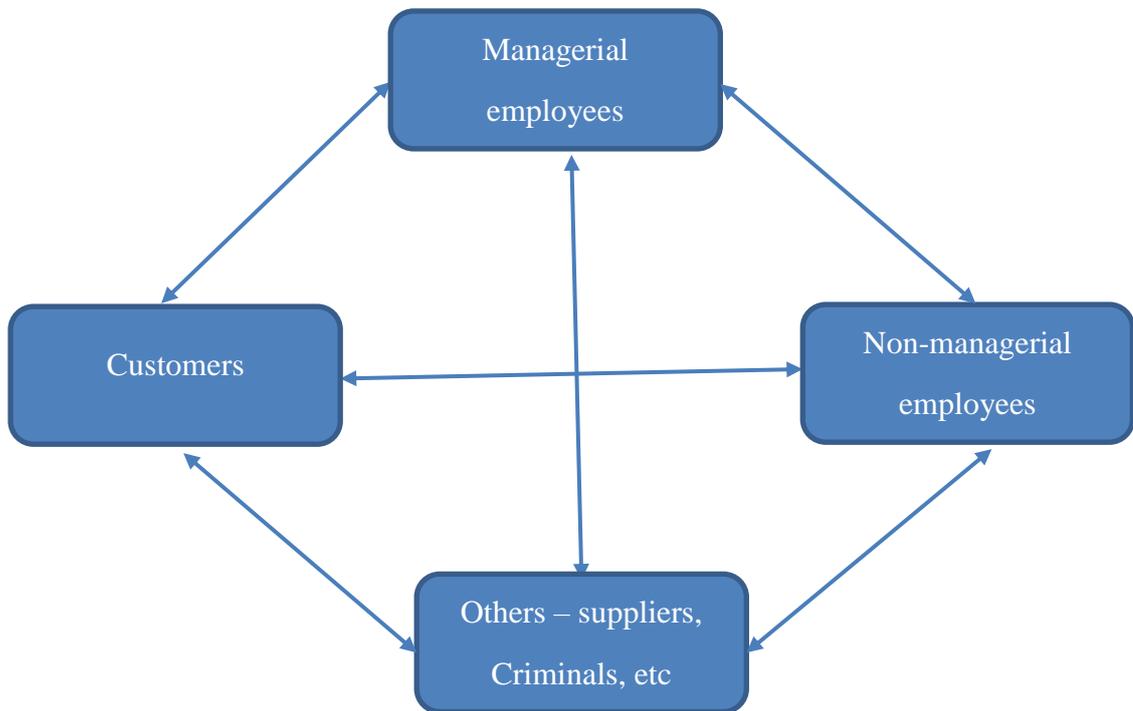
This chapter represents the theoretical background on fraud risk management practices. It also includes the concept of fraud, review of fraud related theories; the fraud triangle and fraud risk management practices. In addition, it explains the risk culture, the relationship between fraud risk management practices and the performance of the bank. It also describes the previous studies and conceptual framework of this study.

2.1 Concept of Fraud

The Association of Certified Fraud Examiners (1999) describes fraud as the use of personal enrichment opportunities through the intentional abuse, misuse or use of organizational resources or materials. According to the Chartered Institute of Management Accountants (CIMA, 2009), fraud is stated as using deception to make a personal gain dishonestly for oneself and/or create a loss for another. In South Africa, the Common Law offence of fraud is described as “the unlawful and intentional making of a misrepresentation which causes actual and or potential prejudice to another”. Therefore, banking fraud is described as using deliberate wrongdoing to fraudulently acquire assets, capital and other valuable assets owned or held by a financial institution. Fraud is one of the most critical issues in the financial sector particularly for the banking industry, which may contribute to a country's financial crisis. The negative economic effects of fraud in the financial sector is more serious than in other economic sectors. Fraud in the banking sector can lead to credibility loss and loss of potential clients (Vousinas, 2016).

There are two types of banking fraud. The first type of fraud is insider fraud, performed by a bank employee or not intrinsic to the control system of the bank (Greenbaum & Thakor, 2007). Elliot and Willingham, in 1980 described insider fraud as management fraud and employee fraud, including fabrication of financial statements, abuse of assets, wrongdoings, gifts, material evidence dissatisfaction and conflicts of interest. The second type of fraud is outsider fraud and may result either from the theft of personal information from the bank's legitimate customers or from falsifying personal data to increase client loans that do not otherwise qualify (Mishkin 2006). Although multiple fraudsters commit fraud, they may sometimes work together to counter fraud through collusion as defined in figure 2.1.

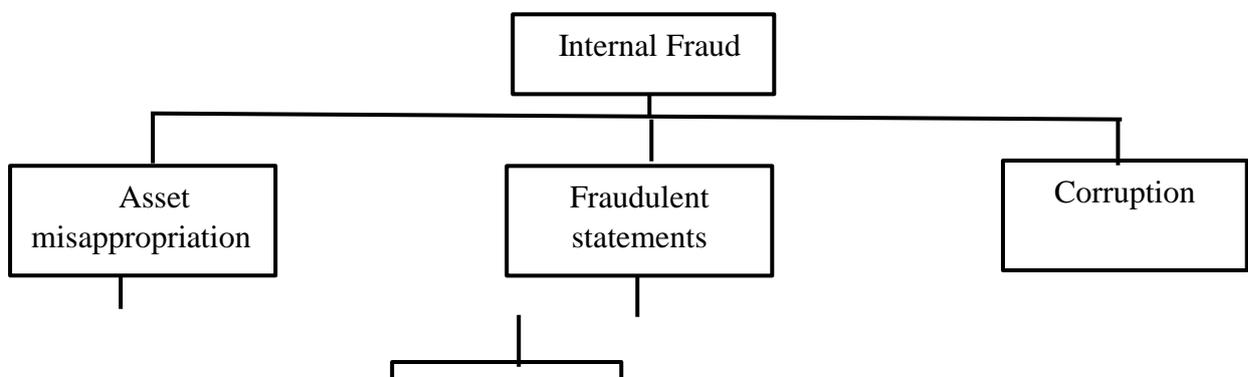
Figure 2.1 Collusion among perpetrators

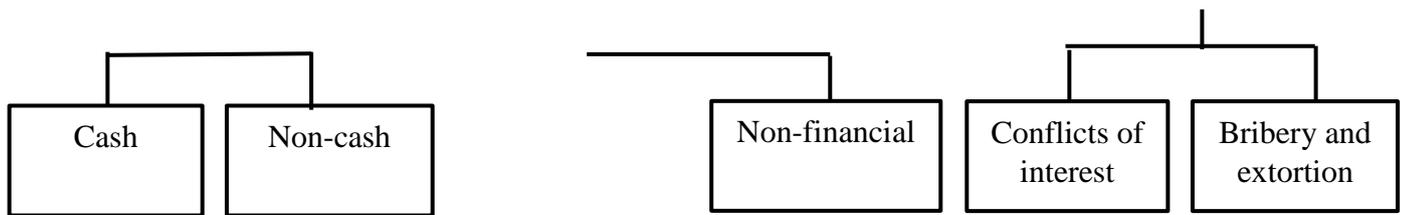


Source: Serah Akelola, 2012

There are three main types of internal fraud caused by organizations according to the Association of Certified Fraud Examiners (ACFE). The first type is asset misappropriations that include theft or misuse of resources of an entity, such as plant theft, inventory or cash, fraudulent invoicing, accounts due fraud and payroll fraud. The second classification fraud is false claims, usually adulterating financial statements in order to gain some sort of inappropriate. The last classification of the fraud is corruption which involves conduct or actions where a person recognizes, offers or accepts him or her or someone else, when the intention is to behave disappointingly or misguidedly. It also includes content or data misconduct, abuse of power, or violation of duties or liability. The types of internal fraud are summarized in figure 2.2.

Figure 2.2 Types of Internal Fraud





Source: Chartered Instituted of Management Accountants (2009)

The multiple variables that underline the prevalence of bank fraud can also be grouped into institutional structural and environmental components that are further discussed below.

- 1) *Institutional factors.* Factors that can be applied to the organization's inner workplace. They are all variables under the supervision of the bank's administration. Next are the remarkable institutional elements that could promptly occur if insufficiently given or obvious, cheats are carried out;
 - The lack of effective use of IT and information management systems.
 - Inefficient documentation and method of internal control.
 - Lack of direct monitoring and review and balance procedures.
 - General frustration from the unfulfilled promise of executives and bad corporate welfare arrangement.
 - Dismisses for "know your client (KYC) rule.
- 2) *Environmental factors.* The prompt and remote region (social, monetary, and political) of the bank can be followed by factors. Some social issues encourage people to get into attraction and so enter false people in the general public which include but are not limited to the accompanying public;
 - Genuinely at work or in the open never gets energized again. Unfortunately, these individuals are often loathed and regarded as reasonable, weak or dumb, and do not know how to use the opportunity to make quick money.
 - Much premium is set on the gathering of riches in the general public without thinking about the source of riches.

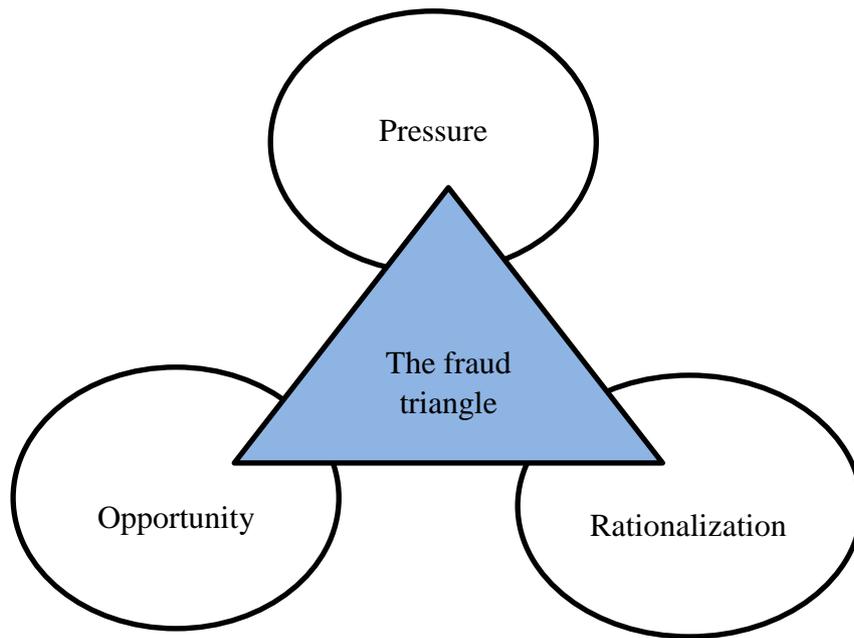
2.2 Causes of Fraud

Cressey (1971) described the fraud triangle theory which was occurred from three factors such as Perceived Pressure, Perceived Opportunity and Perceived Rationalization which is described in Figure 2.3. Most of fraud cases was committed

by individuals who suffer the pressure due to the financial difficulties, drugs, gambling, etc. Then the pressure forces individuals to motivate to solve their financial issues. The motive is usually based on greed or need in line with the Chartered Institute of Management Accountants (CIMA, 2009). CIMA also mentioned that many people face fraud and only a minority of the greedy and poor are involved. These could take the form of inadequate internal controls, weak disciplinary procedures or poor organizational ethics (Cressey, 1973; Wells, 2004). The third driver is rationalization. According to CIMA (2009), many people are complying with the law because they believe in it and/or fear being shaken or rejected by people they care if they get caught. Many people may, however, rationalize fraudulent acts as:

- necessary – especially when done for the business
- harmless – because the victim is large enough to absorb the impact
- justified – because ‘the victim deserved it’ or ‘because I was mistreated.

Figure 2.3 The Fraud Triangle



Source: Chartered Instituted of Management Accountants (2009)

2.3 Fraud Risk Management Practices

There are a variety of ways to illustrate the risk of fraud by good fraud management practices. Fraud risk management activities are any expected measures to reduce the possibility of fraud triggers. As per KPMG (2014), there are three main objectives of fraud risk management practices such as:

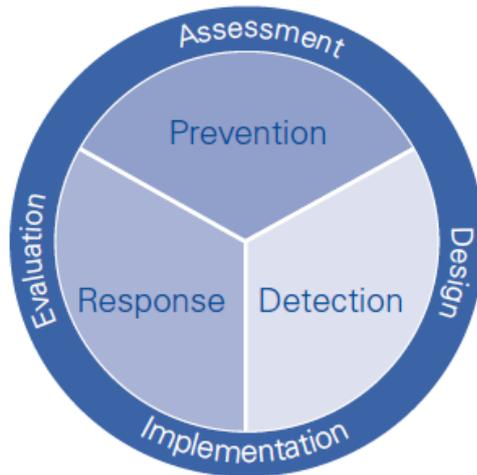
- (1) Avoid the incidence in the first place of fraud and misconduct;
- (2) Detect fraud and wrongdoing in cases of fraud; and
- (3) React appropriately and take action to address breakdowns in integrity.

Efficient fraud risk management also provides companies tools to manage risk in a manner that is compliant with laws and regulations, business needs and market expectations of the client. Such an approach typically has four phases stated in the following figure 2.4:

- Assessment of organizational requirements based on the nature of fraud and risk of misbehaviors and current fraud management programs.
- Implementation of systems and controls in compliance with legal and regulatory standards and industry practices commonly shown to be successful by corporations and other organizations.

- The introduction of programs and controls by task allocation, internal capacity development and resource deployment.
- System evaluation and control design, execution and operational efficiency.

Figure 2.4 Effective Fraud Risk Management Framework



Source: KPMG (2014)

2.3.1 Preventive Fraud Risk Management

Risk management techniques in the prevention of fraud are designed to control fraud. It is therefore mainly aimed at reducing the chance of fraud exposure. The best way to combat fraud is to eradicate it and improve the key business processes (Albrecht et al., 2012). Preventive action is meant to minimize the chance and eliminate potential fraudsters. According to CIMA (2009), mitigation strategies include legislation, processes and controls, training, fraud awareness and other programs to prevent fraud. For example, the use of anti-fraud control mechanisms such as duties segregation, limitations and permissions, customer inspection, access controls, protection process implementation and installation, and the framework of security physical control (KPMG, 2006). CIMA (2009) notes that loss prevention is advantageous, and fraud prevention efforts will help to ensure the profitability and survival of an organization. However, prevention and disruption strategies are less costly than the time and cost of fraud detection and prosecution (Sanusi, Rameli, & Isa, 2015).

2.3.2 Detective Fraud Risk Management

Fraud detection applies to all methods for identifying fraud after fraud has been committed by organizations (NDIC, 2014). Fraud detection approaches are programs that are being implemented to recognize fraud effectively and quickly that have obsolete prevention measures in order to allow an entity to take appropriate corrective action (Australian Standard, 2008). When enforcing processes and procedures in the company, most instances of fraud can be detected. In the detection of fraud by the organization, Burnaby et al. (2009) found that the examination of access control, physical security, and risk analysis procedures are the most effective means of detection of fraud. Daily seminars and workshop on ethics, external and internal surprise measures, reducing losses due to fraud detection (CIMA), 2009; Dominic & Lanoue 2015; Halbouni 2015; Njenga & Osiemo 2013). Furthermore, daily account reconciliation and whistleblowing hotline are also important elements for detecting fraud in an organization.

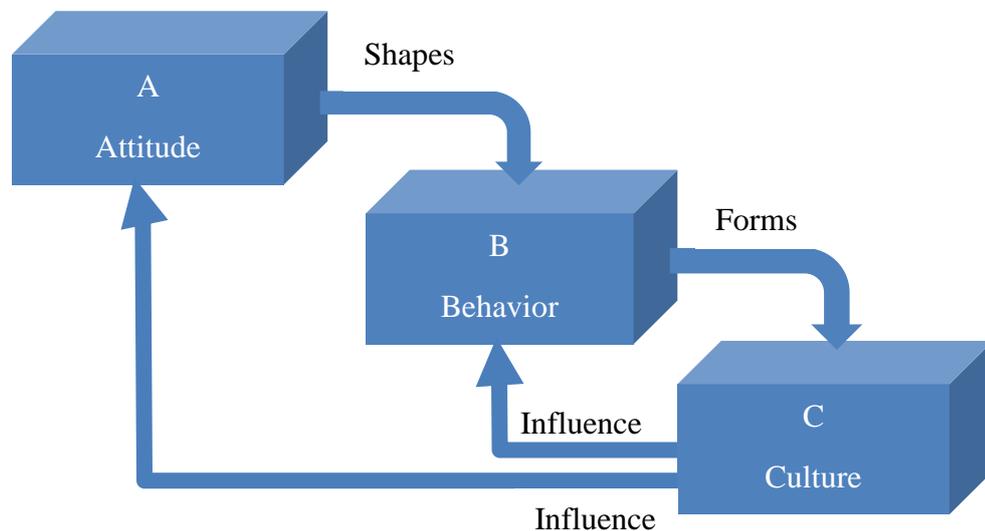
2.3.3 Responsive Fraud Risk Management

According to the CIMA (2009) the fraud response plan will emphasize the organization's involvement and approach to dealing with individuals who do not meet these expectations with high legal, ethical and moral criteria. KPMG (2014) reports that response systems are intended to take corrective measures and mitigate the damage caused by fraud or abuse. The most effective means of responding to fraud reported by Kapardis and Papastergiou (2016) comprises internal investigation, referred to the appropriate body, reviewed by the Audit Committee, voluntary resignation or retirement, reconstitution or reprimand, remedied before the courts, immediate dismissal or disciplinary action.

2.4 Risk Culture

The risk culture can be described in Lima and Castro (2005) as a behavioral system that provides for the core values and actions embraced by an organization in order to help shape the right process in decision-making. In addition, Hillson (2012), defines risk culture “as the set of norms and forms of behavior that are adapted naturally when a situation that is considered as risky or important is faced”. The underlying risk culture development process is explained in more depth in conjunction with Institute of Risk Management (IRM) (2012). In IRM (2012), the culture of a group is shown by repeated behavior in a group and is influenced by people's attitudes in a group. Both concepts that form a risk culture are defined as follows:

Figure 2.5 Risk Culture Formation - the ABC (Attitude-Behavior-Culture) Model



Source: Ömer Bostancı, 2013

IRM (2012) describes risk-based behavior in a person or group's designated risk role, which is affected by risk perception and risk conduct, including external measurable risk-related behaviors like risk-based decision-making, risk processes, risk communications and so forth.

Based on the PWC Risk Culture Framework (2009), there are four key metrics used for assessing the risk cultures of an organization including:

- Risk management controls must be sufficient and must develop as required.
- Adequate risk training should be provided to individuals to acquire the necessary qualifications.
- Strategies, goals, mission and vision statements should be clearly communicated.

- Incentive emphasis should not be based on short-term goals and disciplinary measures should also be applied effectively if appropriate.

In another perspective, Geretto and Pauluzzo, (2015) and Levy et al., (2010) suggest key characteristics which should distinguish a robust risk culture in the banking sector:

- Individual and collective accountability: risk management should be seen as the direct responsibility of the employees and should include all company representatives;
- The commonalities of ethics, principles, and purpose: these are typical characters of the individual or of employees who should align themselves with the organization's risk toleration, approach, appetite and strategy;
- General implementation and acceptance of a risk culture: risk should be taken into account at all levels of the organisation, from strategic planning to day-to-day operations;
- Knowing the importance of effective risk management: employees must be conscious of the added value to the business organization given by effective risk management;
- Transparent, prompt and accurate communication: employees must be able to talk about danger publicly and freely using a common language that facilitates common understanding;
- The challenge is expected: employees will cultivate demanding attitudes towards others (even if they are authorities) and a conversation should be welcomed with a positive approach;
- Presence of a learning organization: the group's ability to manage risks effectively will continually develop across tailored learning processes;

2.5 The Performance of a Bank

There are many ways in explaining the performance of a bank. Antony and Bhattacharyya (2010) explained how performance is used to measure and evaluate the organization's progress in generating and providing value to its internal and external customers. Results from objective (financial) and subjective (non-financial) indicators (Aliyu, Jamil, & Mohamed, 2014) are presented. Financial performance is a measure of how effectively a company can use its resources in order to produce more revenues. In addition, it can also be used for a time as an overall indicator of the total financial health of the company and can also be used to compare similar companies across the same sector or to compare aggregate industries (Hales 2005). The bank's sound financial ability not only assures its depositors, but also employees, creditors and the entire economy (Olongo, 2013). In many research studies, financial behavior such as return on assets (ROA), return on investment (ROI) and return on equity (ROE) are used to point out the business ' success. (Saeidi, Sofian, & Zaleha Siti, 2014; Henri, 2004). Similarly, Rasid, Golshan, Mokhber, Tan and Mohd-Zamil (2017) used the banks financial performance measurement targets such as ROI, ROA, ROE, revenue growth, liquidity and branch budget.

In fact, non-financial performance metrics are a good indicator of the long-term performance of the company and allow executives to assess and track the company's progress towards its strategy goals (Kaplan & Norton, 2001). Certain measures of non-financial performance include depositor trust, investor confidence, business credibility and competitive advantage. Customer satisfaction, the number of new clients as well as the number of customer complaints and customer retention are certain non-financial indicators (Hernaus, Bach & Vesna Bosilj Vukšić, 2012; Jha & Hui, 2012; Otache & Mahmood, 2015; Rasid et al., 2017; Wu et al., 2009). The use of both financial and non-financial interventions is a key element in the financial sector such as banking and insurance. A large number of scholars support this view (Dossi & Patelli, 2010; Elnihewi, Mohamed, & Hanim, 2017; Gweyi & Karanja, 2014; Hakkak & Ghodsi, 2015; Hussain and Gunasekaran, 2002; Rasid et al., 2017).

2.6 Previous Studies

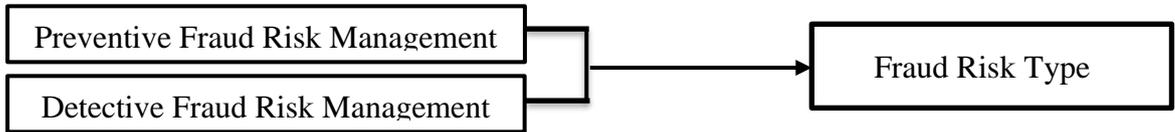
There are many studies have been conducted related with Fraud in different industries by different researchers. Empirical proof shows positive connection between fraud risk management and the organizational performance in different industries and in different nations (Liu & Wu, 2007; Kimathi Betty Kanana 2018). Besides, while, Furlan, Vasilecas, and Bajec (2011) conveyed their investigation on motor insurance fraud control system in the USA, the discoveries of their report proved a huge positive connection between detective fraud risk technique and the firm's profit. Moreover, Kinyua, Gakure, Gekara, and Orwa (2015) in their investigation on Quoted organizations in the Nairobi Securities Exchange Kenya, revealed a critical effect of fraud risk management on the financial performance of Nairobi security trade.

However, this study focuses on the banking sector and therefore, the following empirical studies are selected as references. Gikiri Lucy (2003) studied the effect of fraud risk management practices on fraud risk in commercial banks in Kenya using two dimensions of fraud risk management practices: preventive and detective fraud control techniques. His study used five-point likert scale to evaluate the effect of fraud risk management practices in Kenya banking industry. Moreover, his study used linear regression model to examine the effect of fraud risk management practices on the fraud risk types. It showed that the techniques used by the banks in Kenya have no significant impact on the fraud risk types in Kenya.

Figure 2.6 Conceptual Framework of Effect of Fraud Risk Management Practices on Fraud Risk in Commercial Banks in Kenya

Independent Variables (IV)

Fraud Risk Management



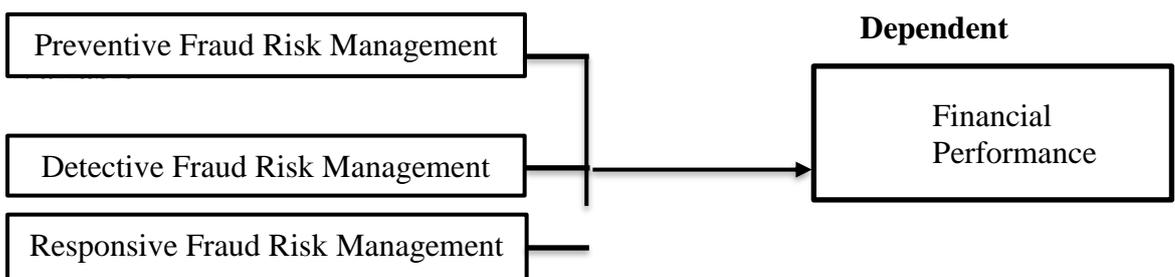
Source: Gikiri Lucy Waigumo (2003)

Likewise, Ronald O Ohando (2014) conducted a study on the relationship between fraud risk management practices and financial performance of commercial banks in Kenya. He used descriptive research design for his study and multiple linear regression analysis to examine the effect of every dependent variable on financial indicator as Return on Asset (ROA). His study found out that the major cause of bank fraud was the poor salaries, followed by greed. Moreover, it showed that the banks in Kenya utilized the proactive fraud risk management practice as the banks key approach to deal with the fraud. Ronald O Ohando concluded that the preventive fraud risk management practices had the strongest positive influence on financial performance of commercial banks whereas detective fraud risk management practices as well as responsive fraud risk management practices are positively correlated to financial performance of commercial banks as measured by ROA. The conceptual framework of Ronald O Ohando was described as per below.

Figure 2.7 Conceptual Framework of the Relationship between Fraud Risk Management Practices and Financial Performance of Commercial Banks in Kenya

Independent Variables (IV)

Fraud Risk Management

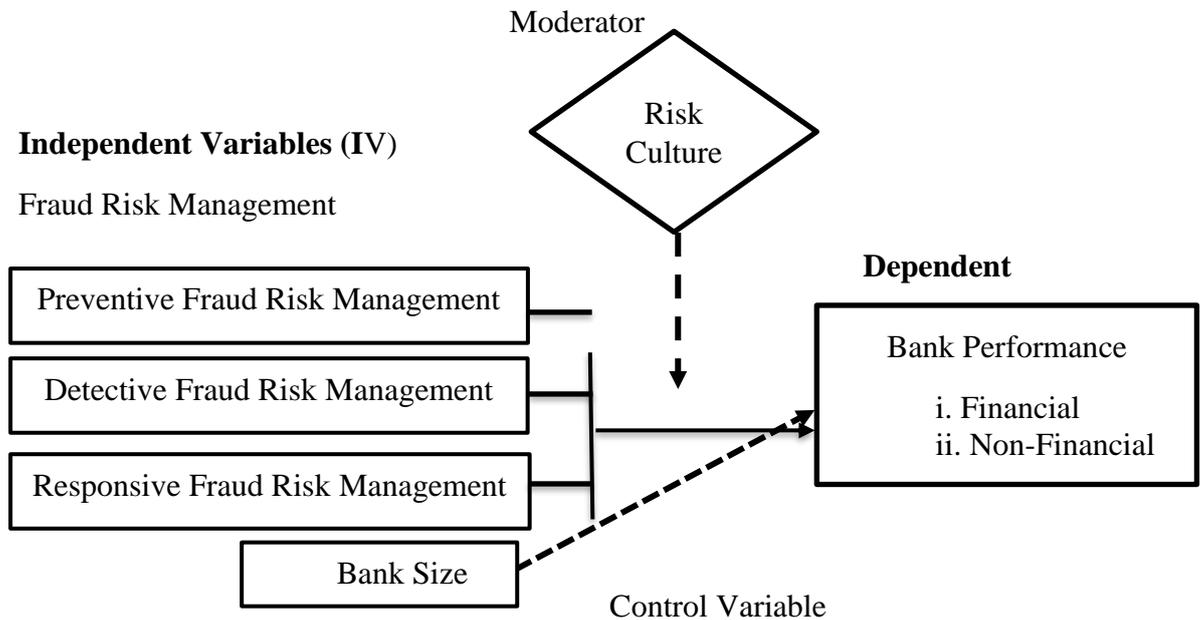


Source: Ronald O Ohando (2014)

Similarly, Umaru, Arpah, Muhammad-Bashir (2018) did a preliminary analysis on the effect of fraud risk management, risk culture on the performance of Nigerian

Banking Sector in July 2018 and it randomly selected 417 banks out of 1098 banks in Nigeria. In addition, Hoffmann and Birnbrich (2012) studied the impact of fraud prevention on bank-customer relationships: an empirical investigation in retail banking the result in Germany revealed a positive relationship between fraud prevention measures and the quality of customer relationships. Moreover, Liu and Wu (2007) studied customer retention and cross-buying in the banking industry: an integration of service attributes, satisfaction, and trust in Taiwan, revealed that service attributes, such as fraud prevention, can positively affect relationship continuation and cross-buying. The connection between risk culture and performance has been built up from past studies. For example, Kpodo and Agyekum (2015) revealed that there is a positive correlation between risk culture and organizational performance in the banking industry. In view of the writings mentioned above, the following conceptual framework was proposed in Jan 2019.

Figure 2.8 Conceptual Framework of Effect of Fraud Risk Management, Risk Culture on the Performance of Nigerian Banking Sector

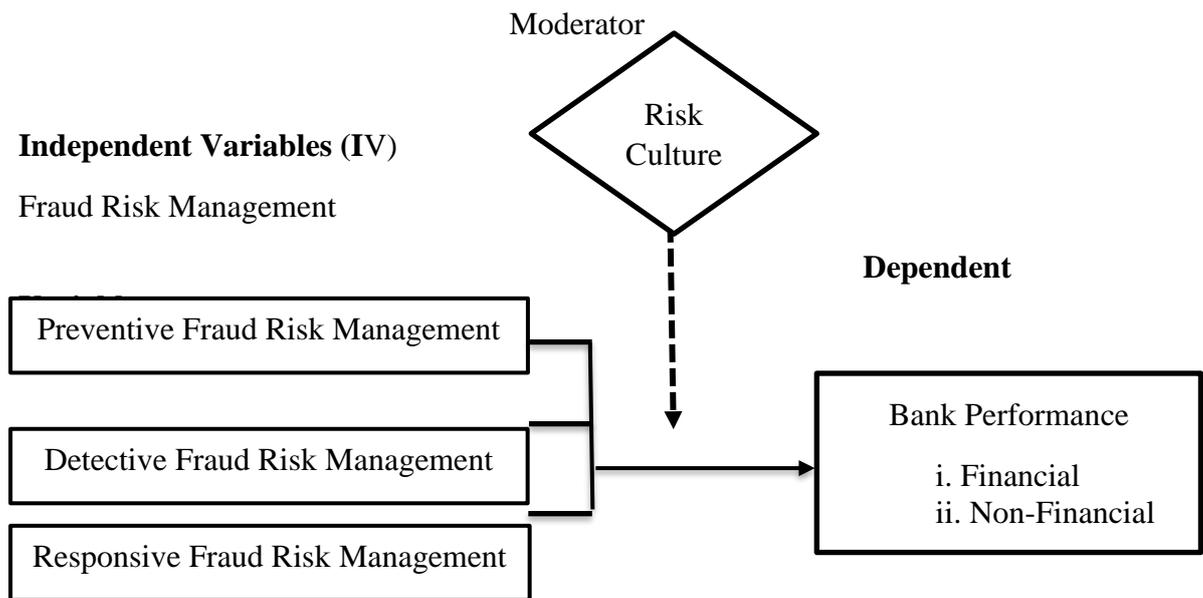


Source: Umaru, Arpah, Muhammad-Bashir (2018)

2.7 Conceptual framework of the study

According to a good practice of fraud risk management practices of CIMA (2009), there are three techniques of fraud risk management such as preventive, detective and responsive. Since CB bank has used three techniques to mitigate the occurrence of fraud risk in the bank, these three variables are selected as independent variables in this study. Moreover, risk culture may have a significant impact on the performance of a bank based on the empirical studies mentioned above and therefore, this study includes risk culture as a moderator to evaluate whether there is the moderating effect on fraud risk management practice and performance of a bank. However, this study is conducted on CB Bank in Myanmar and therefore bank size is excluded. Refer to Umaru, Arpah, Muhammad-Bashir’s proposed conceptual framework of Nigerian banking sector, the following conceptual framework of the study is adapted and shown in Figure 2.9. The key concept of this study examines whether there is any effect of those independent variables on dependent variables and to what extent they are affected.

Figure 2.9 The Conceptual Framework of the Study



Source: Adapted from Umaru, Arpah, Muhammad-Bashir (2018)

The discoveries of this investigation can be used as a contribution not only to the management of the bank but also to the regulation of the financial industry to reinforce their risk culture and improve their fraud control management strategies, and for different partners, it assists them with revealing key areas in fraud conspires that need quick and brief consideration for improved execution.

CHAPTER 3

OVERVIEW OF FRAUD RISK MANAGEMENT PRACTICES OF CB BANK

This chapter introduces the profile of CB bank and its fraud risk management practices. There are five sections in this chapter. They are the overview of fraud risk in banking sector of Myanmar, profile of CB bank, the experience of bank fraud incidents in CB Bank and the fraud risk management practices in CB bank such as prevention, detection, responding and investigation.

3.1 Overview of Fraud Risk in Banking Sector of Myanmar

In the present uncertain financial condition, the possibility and spark to commit frauds have both extended. Events of favorable position misappropriation, tax avoidance, cybercrime and accounting coercion are simply extending always. With changes in development, fraudulent acts have taken the shape and modalities of created bad behavior, sending dynamically present-day techniques for execution. As money related trades become logically advancement driven, they seem to have become the weapon of choice with respect to fraudsters. In Myanmar, while the financial sector is developing quickly in terms of number of banks as well as mobile financial service providers, the financial sector in Myanmar has become an easy prey for fraudsters who have been pulling off enormous amount of money every year. However, information in Myanmar is rare, not constantly solid, and conflicting. This holds particularly valid for the banking sector. Many banks do not publish their yearly reports or uncover information especially the fraud cases happened in the banks.

As innovation turns out to be progressively close to personal and common in Myanmar life, services are developed, and misappropriation of funds are incremented. Individual information will be pull away, transmitted, and got to by mobile applications, or web-applications for services, for example, internet banking, online business, or e-government. International cases exhibit that neglecting to keep up the honesty and security of these system infrastructure has extreme implications. In Myanmar, some have portrayed ongoing ATM extortion in Myanmar as the primary case of cybercrime as the network of banking services grow (The Irrawaddy “Foreigners Charged over ATM Scams in Rangoon” (November 2014)). With the development of new technologies, the banks in Myanmar are increasingly exposing the possibility of being attacked to many risks for example phishing, data fraud, card skimming, cloning the bank web page and so on. The most common frauds occurred in Myanmar nowadays is

“Phishing”, where fake messages are sent with the goal of extricating cash or acquiring individual data, for example, bank account information, have been found in Myanmar for over 10 years. Myanmar beneficiaries have been taken in by counterfeit 'You have won the lottery!' messages, and letters from the President of the World Bank (The Myanmar Times (February 2013)). In addition, the fraudsters are creating the fake bank page in the social media for example, Facebook, to communicate with the individuals through chatbot messenger and ask them to fill up the customer details including bank account information using the google form. Then they withdraw the money from ATM or mobile financial service agents through the bank mobile app. This kind of fraud in Myanmar banking sector is increasing sharply nowadays due to the lack of proper awareness training given by the financial institutions to the public.

While the Information and Communication Technology (ICT) sector is developing in Myanmar, and more banking products and services are being presented on the web, for example, online banking, security of data against assaults will turn into a focal issue to the Government of Myanmar's web administration policy. In any case, there is right now no legitimate structure in Myanmar that clearly mentions what comprises Personally Identifiable Information (PII) or stipulates any prerequisites around the collection and use of individual information for organizations. Hacking is condemned under article 34 of the Electronic Transactions Law (No 5/2004).

3.2 Profile of CB Bank

CB Bank is one of the largest driving private banks in Myanmar with more than 230 branches all over the country. The bank has started with 33 employees in 1992 and over 27 years, it has grown to 9000 employees. Custom-made to its customer's prerequisites, the bank offers banking solutions to corporate customers, SMEs and retail clients. CB Bank has been the front runner in the local banking arena for being the early adopter of technology and innovative as backed by its extensive knowledge of local markets and on the regulations since inception of the bank in 2004. CB Bank is the first pioneer bank start using the international core banking system in the country in 2012 and its core banking system – T24 from Temenos of Switzerland has enhanced bank-wide connectivity with its branches to facilitate better banking services and improve overall customer experience.

The Bank has introduced ATMs in Myanmar since 2011 and followed by accepting Visa, MasterCard, China Union Pay through its Point of Sale (POS) terminals in 2012. It is also the first bank to launch internet and mobile banking and agent

banking in 2014 and has introduced business internet banking in early 2015. CB Bank has launched the first credit card in Myanmar in 2016.

CB Bank intends to be the best digital bank in Myanmar. Financial literacy and financial inclusion have a significant impact of its adventure to accomplish this strategic. The banks likewise plans to make a client experience that is digital from end-to-end empowering clients to scan and apply for savings account and loans, and afterward deal with their records through digital touchpoints and to evolve into a 21st century customer value-oriented bank that utilizes technology to encourage the customer experience and include advantage that reaches out past conventional banking. Being the leading digital and innovative bank in Myanmar, CB Bank has received many international prizes since 2016. For instance, CB Bank has won the best bank in Myanmar in 2018 given by Euro Money, the best digital bank in Myanmar in 2018 awarded by Asia Money and World Finance organizations.

Moreover, for some unbanked individuals in provincial territories, CB bank has built up Agent Banking to consume the financial services in regions where it is not practical to open physical branches. Furthermore, CB bank was the primary bank in Myanmar to shape association with Post Offices around the nation to offer Mobile Agent Banking Services.

The aim of CB Bank is to achieve the goals and dreams of its clients and accomplices. To achieve its vision which is turning into a key player in ASEAN's banking sector and give the best financial solution in Myanmar, the bank is based on the strong establishment of a good corporate governance. It has also developed and implemented the rigorous risk management framework.

3.3 Organization Structure of CB Bank

CB bank is the third largest private bank in Myanmar in terms of total assets and branches according to CBM data. There are many shareholders holding the shares of CB Bank and the major shareholder is U Khin Maung Aye who is the chairman of the bank as well. There are nine main committees in the bank, and they are Admin & Operation Support Committee, Human Resources & Remuneration Committee, Risk Management Committee, Banking Technology Development Committee, Staff Ideology & Education Committee, New Branch Opening Committee, Executive Management Committee, Assets & Liability Management Committee and Operation Risk Management Committee.

The organization structure of CB Bank is hierarchical structure with the guidance of CEO, U Kyaw Lynn. The CEO sets the strategy, oversees the whole overview of managing the bank services of the bank and there are two managing directors under CEO such as MD of Business and MD of Support. The managing director of support makes sure that the policies and procedures of the bank are in line with the rules and regulations issued by the Central Bank of Myanmar. There are (8) main divisions under MD (Support) such as Finance, New Branch Opening, Compliance, Admin, Legal, Systems, Human Resources and Risk Management. In addition, the managing director of business focuses to provide the bank services and solutions to the customers and financial institutions. Consumer Banking, Cards & Merchant Services, Business & Financial Institutions Banking, Transaction Banking, Treasury and International Trade & Payment Services divisions are directly managed and reported to the MD of Business. However, Corporate Strategy and Development is directly supervised by CEO.

3.4 Experience of Bank Fraud Incidents in CB Bank

Like other banks in the financial industry, CB has also exposed the fraud risk related with the bank. According to the bank analysis data, the fraudulent cases committed within CB bank from 1st April 2016 to 30th Sept 2019 is shown in Table 3.1.

Table 3.1. Bank Fraud by Gender in CB Bank

Characteristics	No of Fraud Cases		Total Fraud Amount
	Number	Percent	Percent
Gender			
Male	46	61	39
Female	30	39	61
Total	76	100	100

Source: CB Bank (2016-2019)

According to the above data, 61% of fraud cases were committed by male employees while 39% were perpetrated by female employees. However, the cost committed by female employees is much more than the male employees did.

In addition, Table 3.2. shows that the age between 21 and 30 did the fraudulent activities more than the rest of the age groups. While the total number of fraud cases committed by male employees whose age is between 21 and 30 is 36%, the female employees whose age is between 21-30 did 22% of total the fraudulent activities. On the other hand, the total fraud amount perpetrated by young female employees is much more costly which is 36% of total fraud amount than the others.

Table 3.2. Bank Fraud by Age and Gender in CB Bank

Age (Year)	No of Fraud Cases		Total Fraud Amount	
	Male (Percent)	Female (Percent)	Male (Percent)	Female (Percent)
21-30	36	22	13	36
31-40	18	12	17	5
41-50	7	4	9	20
51-60	0	1		
Total	61	39	39	61

Source: CB Bank (2016-2019)

Furthermore, the fraud was committed by not only the bank staff themselves but also the customers. The total amount of fraud committed by both customers and bank employees is shown in the following Table 3.3. From the analysis of the data, the cost of fraud committed by senior assistant and supervisor which is 26% and 24% respectively is half of the cost of the total fraud amount.

Table 3.3. Role of Fraudster in CB Bank

Position	Percent of Total Fraud Amount
Senior Assistant	26
Supervisor	24

Assistant Manager	18
Customer	11
Assistant Supervisor	8.7
Junior Assistant	4.6
Deputy Manager	4.4
Manager	2.1
Helper	0.9
Security	0.3
Total	100

Source: CB Bank (2016-2019)

Moreover, most of the fraud cases occurred in lower part of Myanmar (67%) of total fraud amount and (22%) was happened in middle part of Myanmar and (11%) was in upper part of Myanmar which is shown in the following table 3.4. However, 44% of total cost fraud amount was occurred in middle Myanmar which was the highest among three zones/regions, followed by lower Myanmar with 31% and upper Myanmar with 25%.

Table 3.4. Bank Fraud by Zone/Region in CB Bank

Zone/Region	Number	Percent	Percent of Total Fraud Amount
Upper	8	11	25
Middle	17	22	44
Lower	51	67	31
Total	76	100	100

Source: CB Bank (2016-2019)

. In addition, 59% of total fraud amount was not recovered and only 41% of total fraud amount was get back from the fraudsters according to the data from Table 3.5.

Table 3.5 Total Cost of Fraud in CB Bank

Total cost of fraud amount	Percent
Loss amount	59
Recovered amount	41
Total	100

Source: CB Bank (2016-2019)

According to Table 3.4 & 3.6, upper part of Myanmar was not only the area where the least fraud cases happened in the bank but also most of the amount of the fraud cases were recovered which was 52% of the total recovered amount. In middle zone and lower zone, the total recovered amount from the fraud was 31% and 17% respectively. The total loss of fraud amount in middle zone was 63% which was the highest, followed by 32% of total fraud loss amount in upper zone and the least loss of fraud amount was 5% in lower zone.

Table 3.6. Total Recovered and Loss of Fraud Amount by Zone/Region in CB Bank

Total cost of fraud amount	Total recovered fraud amount	Total loss fraud amount
	Percent	Percent
Lower Zone	31	5
Middle Zone	17	63
Upper Zone	52	32
Total	100	100

Source: CB Bank (2016-2019)

3.5 Fraud Risk Management Practices in CB Bank

CB bank has recognized that in the present business condition, fraud is common, and all business associations are susceptible to the risk of fraud. In such manner, the motivation behind the Fraud Risk Management Practices ("the arrangement") is to set out and strengthen the Bank's strategy of zero resilience towards misrepresentation and corruption just as the board's promise to fighting all types of fraud or any other dishonest activities in the Bank's daily operations since 2016. The practices describe the bank's structure and procedure for the counteractive action, prevention, discovery, reporting, examination and treatment of fraud and corporate wrongdoing. Moreover, the practices build up a procedure for oversight of fraud chance by the Board Audit Committee and illuminates duties and proprietorship regarding helping the Bank to limit its fraud risk exposure. Likewise, CB bank has adopted a Code of Ethics

articulating the qualities and adequate moral norms to which all people related with the bank are required to follow.

Furthermore, any misrepresentation, corruption, maladministration or some other untrustworthy exercises of a comparative sort in the bank do not go on without serious consequences. Such exercises are reviewed, and activities organized against those discovered capable. Those activities incorporate the laying of criminal accusations, common and managerial activities and the foundation of recuperation where appropriate. In CB bank, fraud risk management procedures are planned and developed. These incorporate any current controls (framework controls and manual inside controls) and those presently recommended in existing arrangements, systems and other pertinent prescripts to the exercises of the bank. It is the obligation of all employees in the bank to report all fraud incidents that go to his/her thoughtfulness regarding his/her supervisor. Then again, such reports are made through the recommended whistle blowing program. Likewise, CB bank strengthens the executives, employees and every other partner following up for the bank to play out their obligations as per the built-up set of principles and business morals which incorporates the accompanying fundamental standards:

- (a) To play out one's obligations with genuineness, honesty, moral standards and duty.
- (b) To protect classification, and not to utilize inside data or confidential data for one's very own or any others' advantages.
- (c) To anticipate and keep away from dealings or exchanges that may prompt conflicts of interest.
- (d) To go about as an expert with information, skill and due care.

Moreover, CB bank has set up a strong and effective corporate governance system that guarantees straightforwardness, responsibility and high moral conduct in all parts of its activities. It is essential to encourage an organizational culture of moral conduct and trustworthiness to counteract misrepresentation and corporate wrongdoing by affecting representatives' lead and social guidelines. The following corporate governance initiatives are in place at the bank:

- (1) The Audit Committee answering to the Board has oversight obligation over the Bank's frameworks of inner control;

- (2) An independent Internal Audit team conducts surveys and tests the viability of interior controls giving confirmation through occasional reports to the Audit Committee;
- (3) The bank's operational risk work encourages risk awareness workshops to recognize chances and exhorts the management on the applicable controls to be executed. This activity likewise covers any dishonest activities;
- (4) Surprise audits/checking are an essential component of the work of Internal Audit work.

3.5.1 Preventive Fraud Risk Management Practice in CB Bank

Under the direction of the Chief Compliance Officer (CCO), the bank leads yearly fraud risk assessment appraisals to recognize the potential misrepresentation hazard exposures to the bank. The fraud risk awareness trainings are one of the fraud risk preventive practices which help in prevention, detection and reporting of any misconduct activities by promoting the degree of risk awareness concerning how fraudulent activities are occurred in the workplace. In this regard, the bank has arranged the training to all the employees on the following:

- (1) Fraud Prevention Plan;
- (2) Code of Ethics;
- (3) Whistle blowing policy;
- (4) How to respond to fraud and corruption; and
- (5) Manifestations of fraud and corruption in the workplace.

Similarly, internal controls are the main line of protection against misrepresentation and corruption. All activities of bank operations are safeguarded by internal controls such as:

- (1) Physical controls (securing of assets);
- (2) Authorization controls;
- (3) Supervisory controls (supervising day-to-day activities);
- (4) Analysis of data;
- (5) Monthly and annual financial statements; and
- (6) Daily reconciliation of account statements.

On top of that, pre-employment screening is the first line of defense against the fraud and it is carried by Human Resource Management Division. The main facts of the pre-employment screening include the following:

- (1) Verification of identity;
- (2) Police criminal history;
- (3) Reference checks with the two most recent employers - this normally requires telephone contact; and
- (4) Verification of formal qualifications claimed.

Besides, all the Directors and the staff members of the bank are required to disclose their specific personal assets and business interests at least on an annual basis. This register is kept with the Corporate Secretary Office.

3.5.2 Detective Fraud Risk Management Practice in CB Bank

In addition, CB Bank has taken many mechanisms to identify and track fraud incidence. Fraud identification involves cashier checks, reconciliation of accounts at all branches and interbank reconciliation at headquarters levels, periodic compliance reporting, stockpiling of goods, cash in the vaults, segregation of duties and responsibilities and routine monitoring at all branches. Therefore, double monitoring structures, reporting systems, installation of close circuit TV / cameras, signature verification, inactive accounts regulation are specific tools to detect fraud.

3.5.3 Responsive Fraud Risk Management Practice in CB Bank

Furthermore, the bank has implemented a whistle blowing policy setting out the detailed procedure which must be followed to report any occurrences of extortion or potentially corruption. Any doubt of misrepresentation and corruption are dealt seriously and will be evaluated, analyzed, and whenever justified, explored. If an employee becomes aware of a suspected misconduct, a fraudulent activity or any irregularity or unethical behavior, such employee has the responsibility to report in terms of a Whistle Blowing Policy.

All charges of misrepresentation and corruption ought to be researched as far as the applicable HR disciplinary strategies. In exploring every suspected case of frauds and debasement, the bank must have respect for fair treatment and must regard the legitimate privileges of all included. The results of the disciplinary procedures (particularly dismissals) ought to be informed to all employees of the bank in order to go about as prevention for potential would-be-violators and communicate a zero-resistance way to deal with misrepresentation and defilement.

To sum up, the fraud risk management practices are reviewed yearly to ensure that the bank's practice of detection and prevention remains relevant and updated as the internal and external operating environment continually changes the bank fraud risk profile.

CHAPTER 4

ANALYSIS ON THE EFFECT OF FRAUD RISK MANAGEMENT PRACTICES ON PERFORMANCE OF CB BANK

This chapter analyses the effect of fraud risk management practices on the performance of CB Bank. It also includes the research method, research design, population and sample size used by this study to obtain its main objectives. This chapter presents the presentation, analysis and interpretation of all data gathered from the field of study during the period of this study.

4.1 Research Design

According to Mugenda and Mugenda (2006), a descriptive research design is the process of collecting data in order to answer questions regarding current status of the subjects in the study. Descriptive research and inferential analysis is carried out according to this methodology to assess fraud risk management and performance of CB bank. Then a correlation and regression statistics were applied to the relationship between fraud risk management practices and banking performance.

The analysis presented both primary and secondary data. Primary data were obtained by interview, telephone and email, using questionnaires with five-points Likert scale. Secondary data are gathered through literature reviews, periodic reports and articles from the previous study in this field, statistical information from government websites and the Internet. The sample size is considered representative of sampling if it has similar characteristics to the population (Zikmund, 2003). Nevertheless, it is not mandatory to conduct research into the whole population in order to obtain accuracy and reliability in the results of a study (Mugenda & Mugenda, 2009). The duo further claimed that 10-30 percent of the population is a reasonable representative of the population. Accordingly, a minimum target population of 335 managers at the CB bank, 24 branch managers from the branches in Yangon was randomly selected, reflecting 30% of the target population. Then the target population was also split into zone/region office and the main divisions which are performing the back office daily operation and dealing with the customers. Table 4.1 indicates the proportion of the population and the samples of this study.

Table 4.1 Population and Sample of Employees in CB Bank

	Population	Proportion	Sample
Branch Managers in Yangon Branch	80	30%	24

Assistant General Manager and above in Zone/Region Office	20	30%	6
Assistant Managers and above in Head Office	235	30%	70.5
Total	335		100.5

Source: Current Study

4.2 General Information of fraud in CB Bank

4.2.1 Response Rate

According to study, the structured questionnaire was distributed to 100 respondents through email. Out of 100 respondents, 80 respondents answered the questionnaire and got back. The response rate was shown in the following Table 4.2.

Table 4.2 Response rate

Response	Frequency	Percentage
Responded	80	80%
Not response	20	20%
Total	100	100%

Source: Survey Data (2019)

According to Mugenda and Mugenda (1999), a response rate of 50 percent is appropriate for analysis and reporting, a response rate of 60 percent is fine, and a response rate of more than 70 percent is excellent for analysis and reporting of the study.

4.2.2 Demographic Profile of Respondents

According to the descriptive analysis shows that the larger part of respondents were female (62.5%) while 37.5% were male. This suggests majority of the bank senior officers are female since the percentage of female bank officers are higher than the percentage of male bank officers in CB Bank. Regarding about the educational background of the participants, 72.5% of the respondents are graduated and 27.5% have master degree as the highest educational qualification. In addition, the result shows that 25% of the respondents are deputy managers, followed by manager with (22.5%), assistant general manager is with (17.5%), deputy general manager is with (13.5%), assistant manager is with (12.5%), general manager is with (6.3%) and senior deputy general manager is with (3.5%). As per the survey result, the working experience between 11-15 year is 25% of the total respondents which is the largest group, the second largest group is the experience between 1-5 years with 22.5%, followed by the experience between 16-20 years with 20%, the working experience between 21 years

and over is 17.5% and the working experience between 6-10 years is 15%. The result shows that the senior bank officers of CB bank has been working in the bank for quite long and they have had enough experience and familiarities with the bank policies, operations and fraud risk management practices. Table 4.3 shows that the summary of demographic profile of respondents.

Table 4.3 Demographic Profile of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Gender				
Male	30	37.5	37.5	37.5
Female	50	62.5	62.5	100.0
Total	80	100.0	100.0	
Age Group				
20-29	8	10.0	10.0	10.0
30-39	39	48.8	48.8	58.8
40-49	22	27.5	27.5	86.3
50-59	11	13.8	13.8	100.0
Total	80	100.0	100.0	
Highest Education Qualification				
Bachelor	58	72.5	72.5	72.5
Master	22	27.5	27.5	100.0
Total	80	100.0	100.0	
Current Position				
Assistant Manager	10	12.5	12.5	12.5
Deputy Manager	20	25.0	25.0	37.5
Manager	18	22.5	22.5	60.0
Assistant General Manager	14	17.5	17.5	77.5
Deputy General Manager	11	13.8	13.8	91.3
Senior Deputy General Manager	2	2.5	2.5	93.8
General Manager	5	6.3	6.3	100.0
Total	80	100.0	100.0	
Working Experience in CB Bank				
1-5	18	22.5	22.5	22.5
6-10	12	15.0	15.0	37.5
11-15	20	25.0	25.0	62.5
16-20	16	20.0	20.0	82.5
21 years and above	14	17.5	17.5	100.0
Total	80	100.0		

Source: Survey Data (2019)

Moreover, the following table 4.4 shows that most of the participants are branch managers which is 27.5% of total sample size, followed by consumer banking division and business and institutional banking division (18.8%), transaction banking division is with 10%, regional/zone office is with 7.5%, system division is with 6.3%, risk division is with 5% , audit division is with 3.8% and compliance division is with 2.5%. This clearly states that the targeted respondents are hit and responded.

Table 4.4 Working Division of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Division				
Branch	22	27.5	27.5	27.5
Consumer Banking	15	18.8	18.8	46.3
Transaction Banking	8	10.0	10.0	56.3
Business & Institutional Banking	15	18.8	18.8	75.0
Regional/Zone Office	6	7.5	7.5	82.5
Risk Management	4	5.0	5.0	87.5
Compliance	2	2.5	2.5	90.0
Audit	3	3.8	3.8	93.8
System	5	6.3	6.3	100.0
Total	80	100.0	100.0	

Source: Survey Data (2019)

The study additionally found out how adversely the bank has affected the bank fraud. The following table indicates that how critically the bank has influenced by fraud. The findings shows that 56.3% showed that the impact of bank fraud is occasionally predominant to the bank while 25% demonstrated that bank misrepresentation is moderately common to the bank and 12.5% indicated that the fraud in bank is highly prevalent.

Table 4.5 Adverse Bank Fraud Affected in CB Bank

	Frequency	Percent	Valid Percent	Cumulative Percent
Highly prevalent	10	12.5	12.5	12.5
Moderately prevalent	25	31.3	31.3	43.8
Occasionally prevalent	45	56.3	56.3	100.0
Total	80	100.0	100.0	

Source: Survey Data (2019)

Furthermore, 58.8% of respondents did not discover the fraud and only 41.3% of respondents found the fraud and informed to the Fraud Investigation Team. The findings show that 65% of respondents did not involve in the Fraud Investigation team as well. Only 35% of the respondents involved in it. 32.5% out of 35% of respondents who involved in Fraud Investigation team participated as a team member and only 2.5% of respondents conducted as a team leader. This finding is presented in table 4.6 below.

Table 4.6 Background of Respondents dealing with Fraud

	Frequency	Percent	Valid Percent	Cumulative Percent
Have you discovered fraud and handed it over to Fraud Investigation Team				
Yes	33	41.3	41.3	41.3

No	47	58.8	58.8	100
Total	80	100	100	
Have you involved in Fraud Investigation Team				
Yes	28	35	35	35
No	52	65	65	100
Total		100	100	
What was the role in Fraud Investigation Team				
Member	26	32.5	32.5	32.5
Team Leader	2	2.5	2.5	35.0
Null	52	65	65	100.0
Total	80	100	100	

Source: Survey Data (2019)

4.3 Reliability and Validity Test

Likert scales has widely used in this study. Therefore, before they are used, it should be checked their reliability of each dimension. Reliability refers to the extent to which data collection techniques and analysis procedures will yield similar findings to those of prior researchers. Measurements of reliability provide consistency in the measurement of variables. Internal reliability is most commonly used psychometric measure assessing survey instruments and skills (Zhang, Waszink & Wijngaard, 2000). Cronbach alpha is the basis formula for determining reliability based on internal consistency (Kim & Cha, 2002).

In this study, Cronbach's alpha value is used as a measure of the internal consistency of the scales used in the questionnaire. If alpha is low, then at least one of items are unreliable and must be identified via item analysis procedure. However, as per DeVellis (2003), the Cronbach's alpha value should ideally be above 0.7. In this study, studies scales were tested for internal consistency reliability using Cronbach's alpha test as depicted in following Table.

Table 4.7 Results of Cronbach's Alpha Value

Scale	Type of Scale	No. of Items	Cronbach's Alpha
Preventive fraud risk	5-point Likert	7	0.861
Detective fraud risk	5-point Likert	7	0.870
Responsive risk fraud	5-point Likert	4	0.735
Risk Culture	5-point Likert	5	0.916
Financial Performance	5-point Likert	4	0.635
Non-Financial Performance	5-point Likert	4	0.880

Source: Survey Data (2019)

The results from Table 4.7 the Cronbach's alpha value for all scale are range between 0.635 to 0.916, suggesting very good internal consistency and reliability for the scale with this sample since all scale are greater 0.6.

According to Table 4.7 there is a 7-point Preventive fraud risk, but two items were removed and had Cronbach's alpha value is 0.861 in order to enhance factor reliability in the study. Detective fraud risk is measured with 7 items and two items were also deleted to strengthen the reliability of the factor. Therefore, it has an alpha value of Cronbach of 0.870. Responsive fraud risk is calculated by 4 and out of 7 items, 3 items were removed to increase the factor's reliability in the study and have the Cronbach alpha value 0.735. Risk culture is assessed with 5 objects and has an alpha value of Cronbach of 0.916. Financial performance is measured by 4 things and its alpha value of Cronbach is 0.635. Non-financial performance is calculated by 4 and has an alpha value of Cronbach is 0.880. In short, most of the items in the analysis will increase the study's reliability in accordance with its alpha value of Cronbach.

4.4 Analysis on the Bank Fraud Incidents in CB Bank

This study did the analysis on the bank fraud incidents faced in CB according to the results of the survey data. The study further sought to determine what are the causes of bank fraud and which types of bank frauds were occurred in the bank.

4.4.1 Causes of Bank Frauds in CB Bank

The study sought to determine the perspectives of the respondents on the following causes of fraud in CB bank on a Likert scale of 1 to 5 (Where 1= Highly disagree, 2= Disagree, 3 = Indifferent, 4 = Agree, 5 = Highly agree). Their means and standard deviations were applied to measure degree of the agreement. Based on analysis in Table 4.5, it was noted that average mean of causes of bank's fraud is 3.58. It was founded that most of the respondents strongly agreed that of poor internal control of bank frauds in CB bank organization because the highest mean score of it is 4.10 and standard deviation is 0.851. Also it was found that most of the respondents are fairly agreed the causes of bank fraud is poor salaries, inadequate staff and inadequate training because the mean score of there are 3.13 with standard deviation 1.118, 3.13 with standard deviation 1.073 and 3.20 with standard deviation 1.060.

Their reactions were presented below in the following table 4.8. The results showed that poor internal control has the highest mean score which is 4.1, greed and financial difficulties followed with the mean score of 3.96, poor record keeping had a mean of 3.74, lack of appropriate punishments to the fraudsters had a mean of 3.64, followed by intelligent staff who wants to check whether the controls are existing with the mean score of 3.62, weak in effective reporting mechanism had a mean score of 3.56, inadequate staff had a mean of 3.25, inadequate training had a mean of 3.2 and poor salaries had a mean of 3.13.

The second major cause of the fraud in the bank was greed or financial difficulties. In chapter 3, the internal data showed that the age between 20-29 has committed 58% of the total number of frauds in the bank. lack of appropriate punishments to the fraudsters with the mean score 3.64 is the third cause of bank fraud, followed by the poor record keeping which mean score is 3.56.

Table 4.8 Causes of bank fraud in the bank

	Mean	Std. Deviation
Greed/Financial Difficulties	3.96	0.906

Poor record keeping	3.74	0.964
Poor internal control	4.1	0.851
Poor salaries	3.13	1.118
Inadequate staff	3.25	1.073
Inadequate training	3.2	1.06
Lack of effective reporting mechanism	3.56	0.953
Lack of appropriate punishment to fraudsters	3.64	0.958
Intelligent staff who wants to check whether the controls are existing	3.62	0.877
Overall Mean Score	3.58	

Source: Survey Data (2019)

4.4.2 Analysis on the Types of Fraud in CB Bank

The study sought to determine the perspectives of the respondents on the following types of fraud in CB bank on a Likert scale of 1 to 5 (Where 1=Not at all, 2= Small extent, 3 =Moderate extent, 4 =Large extent, 5 =Very large extent). Their means and standard deviations were applied to measure degree of the agreement. Their reactions were presented below in the following Table 4.9.

Table 4.9 Types of Fraud

	Mean	Std. Deviation
Misuse of asset	2.25	0.935
Card fraud	3.11	0.928
Ecommerce fraud	3.08	0.991
ATM fraud	3.18	0.776
Missing some cash notes from cash packets	2.85	0.887
Unauthorized funds transfer from customer account	3.4	0.936
Unauthorized funds transfer from internal account	2.38	0.998
Phishing and internet fraud	3.93	0.965
Money laundering	2.52	0.968
Cheque fraud	2.19	0.797
Fraudulent loan application	2.55	0.87
Payroll fraud	1.81	0.858
Overall Mean Score	2.8	

Source: Survey Data (2019)

According to analysis in Table (4.9), it was found that average mean of types of fraud is 2.8. It was founded that most of the respondents are strongly agree that the phishing and internet fraud because the mean score of it is 3.93 and standard deviation is 0.965. Furthermore, the second type of fraud incident is unauthorized funds transfer from customer account with mean score 3.4, followed by ATM fraud with the mean score 3.18, and card fraud with the mean score 3.11. However, it was founded that payroll fraud is smallest extent in types of fraud because the lowest mean score of it is 1.81 and standard deviation is 0.858.

4.5 Effect of Fraud Risk Management Practices on Bank Performance

The study sought to find out the effect of fraud risk management practices on the performance of the bank. The results of the findings were shown as below.

4.5.1 Analysis on the Fraud Risk Management Practices and Performance

This factor was analyzed on of the fraud risk management on the performance in CB bank. Also, the study used descriptive statistics where such as mean and standard deviation presented on custom tables were adopted for easily presentation some specific data about financial performance of financial institutions in this study area.

(a) Preventive Fraud Risk Management

According to the mean values of the following table, each factor includes different number of items and is measured on five-point Likert scale of 1 to 5 (Where 1=Not at all, 2= Small extent, 3 =Moderate extent, 4 =Large extent, 5 =Very large extent) of preventive fraud risk management. The respondents generally agreed that most of the preventive fraud risk management are designed to control the occurrence of fraud very large extent. Also, it was founded that pre-employment screening and reward for whistle blowers of preventive fraud risk management are disagreed because the lowest mean score values of there are 2.30 with standard deviation 0.802 and 2.15 with standard deviation 1.104 respectively.

Table 4.10 Preventive Fraud Risk Management Practices

	Mean	Std. Deviation
Fraud risk assessment plan	3.14	0.99
Board, audit committee and senior management oversight	3.17	0.965
Establishment of effective code of conduct and related standards	3.24	0.86
Specific and general training.	3.15	0.887
Pre-employment screening	2.3	0.802
Use of information technology to prevent fraud	3.34	0.871
Establishment of strong internal controls	3.3	0.906
An effective reporting mechanism	3.2	1.011
Reward for whistle blowers	2.15	1.104
Overall Mean Score	2.29	

Source: Survey Data (2019)

(b) Detective Fraud Risk Management

According to the mean values of the following table, each factor includes different number of items and is measured on five-point Likert scale of 1 to 5 (Where 1=Not at all, 2= Small extent, 3 =Moderate extent, 4 =Large extent, 5 =Very large extent) of preventive fraud risk management. The respondents generally agreed that the detective fraud risk management. Most of them are designed to control the occurrence of fraud moderate extent. Because of the means value are less than 3.5 respectively.

Table.4.11 Detective Fraud Risk Management Practices

	Mean	Std. Deviation
Monitoring systems designed to detect fraud	3.13	0.933
External audit	2.05	1.33
Internal audit	2.78	1.232
Account reconciliation process	3.09	1.093
Management review	2.82	1.065
Job rotation program	3.1	1.014
Whistle blowing hotline	2.11	0.968
Confessions	2.13	0.802
Tip-off	2.23	1.018
Overall Mean Score	2.6	

Source: Survey Data (2019)

(c) Responsive Fraud Risk Management

Fraud response plan should reiterate the organization's commitment to high legal, ethical and moral standard. All of these are using Likert Scale; therefore, the respondent can fill up their answer by selecting one from the five options. They are 1=Not at all, 2= Small extent, 3 =Moderate extent, 4 =Large extent and 5 =Very large extent of responsive fraud risk management practices in CB bank. The high averaging scores suggest that respondents have high perception on these dimensions. The means value are categorized into the three levels. Means value of less than 2 are as low level, means value between 2 and less than 3.5 are as moderate level and means value of 3.5 or higher are as high level of perception towards a particular variable (Sekaran, 2003).So according to the mean values of the following table 4.12, conducting internal investigation and recovery of stolen funds of fraud response plan should reiterate the organization's commitment to high legal, ethical and moral standard. Because the highest mean score values of there are 4.04 with standard deviation 0.892 and 4.04 with standard deviation 0.947 respectively.

Table 4.12 Responsive Fraud Risk Management Practices

	Mean	Std. Deviation
--	------	----------------

Conducting internal investigation	4.04	0.892
Disclosing the results of internal investigations to the regulator	2.44	0.926
Prosecution of the offender	3.6	0.821
Strengthening internal controls	3.79	0.774
Communicating to the employees that management took appropriate action	2.95	1.03
Public disclosure of fraud and misconduct	1.63	0.986
Recovery of stolen funds	4.04	0.947
Overall Mean Score	3.21	

Source: Survey Data (2019)

4.5.2 Bank Performance (Financial and Non-Financial)

Based on analysis in Table (4.13), it was noted that average mean of reward factors is 4.0. It was founded that most of the respondents strongly agreed that of the financial performance and nonfinancial performance in CB bank. And then they strongly agreed bank fraud risk has a great influence on bank performance in their organization because the values of mean scores of bank performance factors are greater than 3.5 respectively.

Table 4.13 Bank Performance

	Mean	Std. Deviation
The bank has been able to prevent the incidences and occurrence of fraud.	3.71	0.62
The bank's fraud risk management practices have improved bank profitability.	3.57	0.823
Well established fraud risk management practices have seen the bank save a lot of fraud investigation cost.	3.89	0.596
The bank has been able to recover losses due to fraud.	3.78	0.711
The bank has sufficiently employed resources towards fraud risk management that have resulted to save a financial loss.	3.7	0.786
The bank's fraud risk management practices have improved its bank reputation.	4.09	0.578
Well established fraud risk management practices have helped to increase the confidence of investors.	4.06	0.581
Fraud risk management practices of the bank have influenced on the trust of customers.	4.25	0.563
The bank's fraud risk management practices have given the competitive advantage.	4.07	0.569
Overall Mean Score	4.07	

Source: Survey Data (2019)

4.5.3 Risk Culture

The fourth set of hypothesis relates to the moderating role of risk culture between fraud risk management and bank's performance. Five items in the questionnaire that were added with all the risk culture. Risk culture is behavioral system that envisages the core values and behaviors adopted throughout an organization and assists in shaping the right risk decision making processes. Items of risk culture is measured on five-point Likert scale of 1 to 5 (Where 1=Not at all, 2= Small extent, 3 =Moderate extent, 4 =Large extent, 5 =Very large extent).

Table.4.14 Risk Culture

	Mean	Std. Deviation
Risk awareness program through a formal education and training programme.	3.73	0.886
A code of ethics or similar document to guide staff about ethical standards in bank.	3.51	0.914
Incentives for staff to uphold the bank's standards of ethical conduct	3.89	1.169
Periodic assessment of fraud risk management practices	3.96	1.037
Overall Mean Score	3.77	

Source: Survey Data (2019)

Based on analysis in Table 4.14, it was noted that average mean of factors is 3.77. It was founded that most of the respondents strongly agreed that Culture base view moderates the relationship between the performance in CB bank. And then they strongly agreed that five items of risk culture because the highest mean score of these five items are greater than 3.5.

4.5.4. Summary of Fraud Risk Management Practices, Risk Culture and Bank Performance

The result from Table 4.15 shows that most of the respondents agreed that bank performance is improved if the number of fraud incidents are decreased. In addition, risk culture with the mean score 3.77 shows that most of the respondents believed that if the bank has established a well structure of risk culture in the organization, the financial and non-financial performance of the bank become better. According the output from the following table, the preventive and detective fraud risk management practices are not strong enough to mitigate the fraud risk and they are weak in the bank.

Table 4.15 Summary of Fraud Risk Management Practices, Risk Culture and Bank Performance

	Mean Score
Preventive Fraud Risk Management Practice	2.29
Detective Fraud Risk Management Practice	2.6
Responsive Fraud Risk Management Practice	3.21
Bank Performance	4.07
Risk Culture	3.77
Overall Mean Score	3.19

Source: Survey Data (2019)

4.5.5 Relationship Between Fraud Risk Management and Financial Performance

Pearson correlation is a statistical test that assesses the strength of the relationship between two numerical data variables (Saunders et al., 2009). Therefore, the relationship of independent variables and dependent variable is measured via Pearson Correlation. The significance level is 0.05 in the Pearson Correlation test, which means there is 95% of confidence level. Therefore, the hypotheses only can be accepted if the significant p-value is less than 0.05 (Malhorta, 2010). There are two types of bank's performance in this study as financial and non-financial performance. Correlation test was used to know the relationships between the variables of the study.

Table.4.16 Relationship Between Fraud Risk Management and Financial Performance

Fraud Risk Management	Financial Performance
------------------------------	------------------------------

Preventive Fraud Risk Management	Pearson Correlation	0.323***
	Sig. (2-tailed)	0.004
Detective Fraud Risk Management	Pearson Correlation	0.013
	Sig. (2-tailed)	0.907
Responsive Fraud Risk Management	Pearson Correlation	0.224**
	Sig. (2-tailed)	0.049
Risk Culture	Pearson Correlation	0.454***
	Sig. (2-tailed)	0.000

Source: Survey Data (2019)

** . Correlation is significant at the 0.05 level (2-tailed).

*** . Correlation is significant at the 0.01 level (2-tailed).

To understand the strength and the direction in the linear relationship between variables i.e. fraud risk management and financial performance being measured with the Pearson's of coefficient correlation. The values of correlation of preventive fraud risk management and financial performance is 0.323, means that preventive fraud risk management and financial performance are 32.3 percent positively weakly correlated to each other and this relationship is significant under 1 percent level of significance as shown in above Table 4.16. Furthermore, the values of correlation of detective fraud risk management and financial performance is 0.013, means that detective fraud risk management and financial performance are 1.3 percent positively weakly correlated to each other and this relationship is significant under 10 percent level of significance. And then the values of correlation of responsive fraud risk management and financial performance is 0.224, means that responsive fraud risk management and financial performance are 22.4 percent positively weakly correlated to each other and this relationship is significant under 5 percent level of significance.

Although the values of correlation of preventive, detective and responsive frauds risk management and financial performance are positively weakly correlated to each other, the values of correlation of risk culture and financial performance is 0.454, means that risk culture and financial performance are 45.4 percent positively fairly correlated to each other and this relationship is significant under 1 percent level of significance.

Table 4.17 Relationship Between Fraud Risk Management and Non-Financial Performance

Fraud Risk Management		Non-Financial Performance
Preventive Fraud Risk Management	Pearson Correlation	0.094
	Sig. (2-tailed)	0.412
Detective Fraud Risk Management	Pearson Correlation	0.142
	Sig. (2-tailed)	0.216
Responsive Fraud Risk Management	Pearson Correlation	0.290***
	Sig. (2-tailed)	0.010
Risk Culture	Pearson Correlation	0.397***
	Sig. (2-tailed)	0.000

Source: Survey Data (2019)

***. Correlation is significant at the 0.01 level (2-tailed).

Correlation test was used to know the relationships between the variables of the study. To understand the strength and the direction in the linear relationship between variables i.e. fraud risk management and non-financial performance being measured with the Pearson's of coefficient correlation. The values of correlation of preventive fraud risk management and non-financial performance is 0.094, means that preventive fraud risk management and non-financial performance are 9.4 percent positively weakly correlated to each other as shown in above Table 4.17. Furthermore, the values of correlation of detective fraud risk management and non-financial performance is 0.142, means that detective fraud risk management and non-financial performance are 14.2 percent positively weakly correlated to each other. And then the values of correlation of responsive fraud risk management and non-financial performance is 0.290, means that responsive fraud risk management and non-financial performance are 29.0 percent positively weakly correlated to each other and this relationship is significant under 1 percent level of significance.

Although the values of correlation of preventive, detective and responsive frauds risk management and non-financial performance are positively weakly correlated to each other, The values of correlation of risk culture and financial performance is 0.397, means that risk culture and non-financial performance are 39.7

percent positively fairly correlated to each other and this relationship is significant under 1 percent level of significance.

4.6 Moderating Effect of Risk Culture on Fraud Risk Management Practices and Performance of the Bank

The analysis of the moderating effect was conducted using multiple hierarchical regression (Coakes, Steed, & Price, 2008). Hierarchical multiple regressions have been proposed as the best way to determine whether a quantitative variable affects the relation between the two other quantitative variables (Baron & Kenny, 1986; Cramer & Ebrary, 2003). Multiple hierarchical regression results for moderating effect of risk culture on fraud risk management practices and the performance was described as per below.

4.6.1 Moderating Effect of Risk Culture on Fraud Risk Management Practices and Financial Performance of the Bank

The hierarchical multiple regression analysis was (Cohen, Cohen, West & Aiken ,2003). The first step was accompanied by the main effects of preventive, detective, responsive fraud risk management practices on the financial performance. In the second step, interaction variable was calculated as products of independent and moderating variables were included (Baron & Kenny, 1986).

Model 1

$$FP = \beta_0 + \beta_1 PFRM + \beta_2 DFRM + \beta_3 RFRM + \varepsilon$$

where

FP = Financial Performance

β_0 = Constant

β_i = Regression Coefficients for Independent Variables

PFRM = Preventive Fraud Risk Management Practice

DFRM = Detective Fraud Risk Management Practice

RFRM = Responsive Fraud Risk Management Practice

ε = Standard Error Term

Model 2

$$FP = \beta_0 + \beta_1 PFRM + \beta_2 DFRM + \beta_3 RFRM + \beta_4 RC + \beta_5 PFRM * RC +$$

$$\beta_6 \text{DFRM} * \text{RC} + \beta_7 \text{RFRM} * \text{RC} + \varepsilon$$

where

FP = Financial Performance

β_0 = Constant

β_i = Regression Coefficients for Independent Variables

PFRM = Preventive Fraud Risk Management Practice

DFRM = Detective Fraud Risk Management Practice

RFRM = Responsive Fraud Risk Management Practice

RC = Risk Culture

PFRM * RC = Preventive Fraud Risk Management Practice * Risk Culture

DFRM * RC = Detective Fraud Risk Management Practice * Risk Culture

RFRM * RC = Responsive Fraud Risk Management Practice * Risk Culture

ε = Standard Error Term

Regression analysis was conducted with financial performance as the dependent variable, three fraud risk management practices as the independent variables: preventive, detective, responsive and risk culture as moderating variable. The results are shown in Table 4.18.

Table 4.18 Moderating Role of Risk Culture on Fraud Risk Management Practices and Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.444 ^a	0.197	0.165	0.4375	0.197	6.068	3	74	0.001
2	.618 ^b	0.382	0.32	0.39477	0.185	5.222	4	70	0.001

a. Predictors: (Constant), PFRM, DFRM, RFRM

b. Predictors: (Constant), PFRM, DFRM, RFRM, RC, RCPFRM, RCDFRM, RCRFRM

Dependent variable: Financial Performance

The result in Table 4.18 indicated that R Square Change shows the increase in variation explained by the addition of the interaction term. In Model 1, $R^2 = 0.197$ means that PFRM, DFRM and RFRM explains about 19.7% of the variation in the financial performance. In Model 2, $R^2 = 0.382$ means that PFRM, DFRM, RFRM, RC, RCPFRM, RCDFRM, RCRFRM explains that 38.2% of the variation in financial performance. R square change (18.5%) which is the percentage increase in the variation explained by the addition of the interaction term (RCPFRM, RCDFRM, RCRFRM). This increase is statistically significant at 1% level (P-value = 0.001 < 0.01). It is found that the relationship between fraud risk management practices impact and support for financial performance is moderated by risk culture.

Table 4.19 Moderating Effect of Risk Culture on Fraud Risk Management Practices and Financial Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F
		B	Std. Error	Beta			
1	(Constant)	2.908	0.247		11.782	0.000	6.068***
	PFRM	0.29***	0.098	0.415	2.954	0.004	
	DFRM	-0.281***	0.096	-0.474	-2.925	0.005	
	RFRM	0.216*	0.114	0.312	1.883	0.064	
2	(Constant)	1.965	0.317		6.195	0.000	6.178***
	PFRM	0.21**	0.095	0.301	2.213	0.030	
	DFRM	-0.137	0.098	-0.232	-1.397	0.167	
	RFRM	0.085	0.109	0.123	0.775	0.441	
	RC	0.299***	0.071	0.55	4.189	0.000	
	RCPFRM	0.113	0.103	0.2	1.106	0.273	
	RCDFRM	-0.182	0.13	-0.261	-1.4	0.166	
	RRCRFRM	0.269**	0.106	0.419	2.528	0.014	

a. Dependent Variable: FP

b. Predictors: (Constant), PFRM, DFRM, RFRM

c. Predictors: (Constant), PFRM, DFRM, RFRM, RC, RCPFRM, RCDFRM, RRCRFRM

Note: Statistically significant indicate ***at 1%, ** at 5%, * at 10% level respectively

Based the results from the Model 1 in Table 4.19, the value of F test is 6.068, the overall significance of the Model 1 is highly significant at 1% level. This specified model can be said valid. Likewise, in Model 2 in Table 4.19, the value of F test is 6.178 and therefore, the overall significance of the Model 2 is highly significant at 1% level. This specified model can be said valid,

According to the output from Model 1 in Table 4.19, the coefficient of preventive fraud risk management is 0.29 which means that there is financial

performance increase 0.29 point while a point increase of preventive fraud risk management practices. The coefficient of detective fraud risk management is -0.281 which means that there is financial performance decrease 0.281 point while a point increase of detective fraud risks management. Moreover, the coefficient of responsive fraud risk management is 0.216 which means that there is financial performance increase 0.216 unit while a point increase of responsive fraud risks management. In this table, the preventive and detective fraud risk management is highly significant at 1% level and responsive fraud risk management is significant at 10% level.

As per the output from Model 2 in Table 4.19, the coefficient of preventive fraud risk management is 0.21 which means that there is financial performance increase 0.21 point while a point increase of preventive fraud risk management practices. The coefficient of risk culture is 0.299 which means that there is financial performance increase 0.299 point while a point increases of risk culture. Moreover, the result from Model 2 in Table 4.19 also shows that the relationship between preventive fraud risk management practice and financial performance is statistically significant at $\beta = 0.21$, $P = 0.030 < 0.05$. In addition, the result from Model 2 in Table 4.19 also shows that the relationship between risk culture and financial performance is statistically significant at $\beta = 0.299$, $P = 0.000 < 0.05$. The study also discovers that the interaction effect of risk culture on the relationship between responsive fraud risk management and financial performance in the Model 2 produced statistically significant results at $\beta = 0.269$, $P = 0.014 < 0.05$. This implies that there exist a positive significant effect on risk culture on the relationship between financial performance and responsive fraud risk management practice. It means that for respondents have higher risk culture level, the relationship between responsive fraud risk management and bank's financial performance is more important. Thus, the analysis suggests that there is a moderating effect of risk culture on responsive fraud risk management practice and financial performance.

4.6.2 Moderating Effect of Risk Culture on Fraud Risk Management Practices and Non-Financial Performance of the Bank

To investigate the moderating influence of the risk culture variable on the relationship between each of the fraud risk management practice and non-financial performance, hierarchical multiple regression analysis was used. First, the effect of the preventive, detective, responsive fraud risk management practice as independent variables were examined. Second, the inclusion of risk culture, a moderator, applied on

independent and dependent variables and the following equations were formulated as per below.

Model 1

$$NFP = \beta_0 + \beta_1 PFRM + \beta_2 DFRM + \beta_3 RFRM + \varepsilon$$

where

NFP = Non-Financial Performance

β_0 = Constant

β_i = Regression Coefficients for Independent Variables

PFRM = Preventive Fraud Risk Management Practice

DFRM = Detective Fraud Risk Management Practice

RFRM = Responsive Fraud Risk Management Practice

ε = Standard Error Term

Model 2

$$NFP = \beta_0 + \beta_1 PFRM + \beta_2 DFRM + \beta_3 RFRM + \beta_4 RC + \beta_5 PFRM * RC + \beta_6 DFRM * RC + \beta_7 RFRM * RC + \varepsilon$$

where

NFP = Non-Financial Performance

β_0 = Constant

β_i = Regression Coefficients for Independent Variables

PFRM = Preventive Fraud Risk Management Practice

DFRM = Detective Fraud Risk Management Practice

RFRM = Responsive Fraud Risk Management Practice

RC = Risk Culture

PFRM * RC = Preventive Fraud Risk Management Practice * Risk Culture

DFRM * RC = Detective Fraud Risk Management Practice * Risk Culture

RFRM * RC = Responsive Fraud Risk Management Practice * Risk Culture

ε = Standard Error Term

Regression analysis was used with non-financial performance as the dependent variable, three fraud risk management practices as the independent variables: preventive, detective, responsive and risk culture as moderating variable. The results are shown in Table 4.20.

Table 4.20 Moderating Role of Risk Culture on Fraud Risk Management Practices and Non-Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.324 ^a	0.105	0.068	0.4672	0.105	2.886	3	74	0.041
2	.528 ^b	0.279	0.206	0.43123	0.174	4.215	4	70	0.004

a. Predictors: (Constant), PFRM, DFRM, RFRM

b. Predictors: (Constant), PFRM, DFRM, RFRM, RC, RCPFRM, RCDFRM, RCRFRM

Dependent variable: Non-Financial Performance

The result in Table 4.21 indicated that R Square Change shows the increase in variation explained by the addition of the interaction term. In Model 1, $R^2 = 0.105$ means that PFRM, DFRM and RFRM explains about 10.5% of the variation in the financial performance. In Model 2, $R^2 = 0.279$ means that PFRM, DFRM, RFRM, RC, RCPFRM, RCDFRM, RCRFRM explains that 27.9% of the variation in non-financial performance. R square change (17.4%) which is the percentage increase in the variation explained by the addition of the interaction term (RCPFRM, RCDFRM, RCRFRM). This increase is statistically significant at 1% level (P-value = 0.004 < 0.01). It is found that the relationship between fraud risk management practices impact and support for non-financial performance is moderated by risk culture.

Table 4.21 Moderating Effect of Risk Culture on Fraud Risk Management Practices and Non-Financial Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	F
		B	Std. Error	Beta			
1	(Constant)	3.689	0.264		13.998	0.000	2.886**
	PFRM	-0.086	0.105	-0.122	-0.824	0.412	
	DFRM	-0.076	0.102	-0.128	-0.746	0.458	
	RFRM	0.323***	0.122	0.463	2.645	0.010	
2	(Constant)	2.858	0.346		8.251	0.000	3.861***

PFRM	-0.183	0.104	-0.259	-1.764	0.082
DFRM	0.067	0.107	0.112	0.624	0.534
RFRM	0.184	0.119	0.264	1.543	0.127
RC	0.294***	0.078	0.536	3.778	0.000
RCPFRM	0.043	0.112	0.076	0.388	0.699
RCDFRM	-0.136	0.142	-0.193	-0.958	0.341
RRCFRM	0.226*	0.116	0.348	1.943	0.056

a. Dependent Variable: NFP

b. Predictors: (Constant), RFRM, PFRM, DFRM

c. Predictors: (Constant), RFRM, PFRM, DFRM, RRCFRM, RC, RCPFRM, RCDFRM

Note: Statistically significant indicate ***at 1%, ** at 5%, * at 10% level respectively

According the results from the Model 1 in Table 4.21, the value of F test is 2.866; the overall significance of the Model 1 is highly significant at 5% level. This specified model can be said valid. Likewise, in Model 2 in Table 4.21, the value of F test is 3.861 and therefore the overall significance of the Model 2 is highly significant at 1% level. This specified model can be said valid,

As per the output from Model 2 in Table 4.21, the coefficient of risk culture is 0.294 which means that there is non-financial performance increase 0.294 point while a point increases of risk culture. Moreover, the result from Model 2 in Table 4.21 also shows that the relationship between risk culture and non-financial performance is statistically significant at 1% level. The study also discovers that the interaction effect of risk culture on the relationship between responsive fraud risk management and financial performance in the Model 2 produced statistically significant results at $\beta = 0.226$, $P = 0.056 < 0.1$. This implies that there exist a positive significant effect on risk culture on the relationship between non-financial performance and responsive fraud risk management practice. It means that for respondents have higher risk culture level, the relationship between responsive fraud risk management and bank's financial performance is more important. Thus, the analysis suggests that there is a moderating effect of risk culture on responsive fraud risk management practice and financial performance.

CHAPTER 5

CONCLUSION

This chapter summarizes the study and gives the discussion guided by the study objective. There are also recommendations categorized by recommendations for improvement and those for future study. In this final chapter, the major findings of the study have been discussed and related to previous findings of other studies. The implications of the findings, contributions of the current study, and the limitations of the present study have also been discussed.

5.1 Findings and Discussions

The fundamental aim of this study was fulfilled. The results clearly show that CB bank needs to concentrate on its fraud management practices reflected in its performance. The purpose of the study is the effect of fraud risk management on the performance in CB bank. It is obvious from the literature that fraud risk management is one of the most critical techniques of the bank's success. Bank fraud is one of the largest and most serious risks to public confidence in the financing industry and it is one of the main concerns for the regulator, but also the government and the financial sector.

According to the survey, the most of respondents are females in CB bank. Among them, they are 30-39 years old. Therefore, this level of age has well known about the fraud risk management practices of CB bank. Based on the conducted question, fraud risk management practices of CB bank affects the performance of the bank. According to the result, there is strongly relationship between fraud risk management practices and the performance in CB bank.

Hence overall it was concluded that fraud risk management practices of CB bank's factors are of different types and keeping the nature of the employees work in view, each employee gets influences and motivated through different factors but on whole the most effective ones are created the well social working environment empowerment by delegation of tasks, good relation among employees, annual salary increment and giving bonus. It was founded that the fraud risk management practices of CB bank's factors are reliable at Cronbach's Alpha value.

The findings of the survey showed that major cause of fraud in the bank is due to the poor internal control. When the bank is focusing to improve the customer experience journey with the help of centralized core banking system, there are

loopholes occurred in the internal control system. For example, when the sender transfers the money from CB bank or other local banks in Myanmar, the receiver goes to any branch of CB bank and withdraws the money for the sake of the customer convenience. However, all the staff from the branches had gained the access to those kinds of financial remittance information and made the unauthorized withdrawal from customer accounts or internal accounts.

The second major cause of the fraud in the bank was greed or financial difficulties. In chapter 3, the internal data showed that the age between 20-29 has committed more than half of the total number of frauds in the bank. The study indicated that, because of gambling, rationalization weakness and so on, the youth had committed more fraud easily than the others. Failure to keep records is the third cause of bank fraud and followed by the failure to punish fraudsters adequately. In Myanmar the banks fear damaging their image and losing their customers' confidence. In consequence, the bank seldom discloses cases of fraud to the public, the regulator, the police and the other local banks. It is therefore trying to sort it out between the bank and the fraudster with the least effect of the fraud loss. Many reports of fraud have never been filed with the police and reported in the news. In addition, most of the fraud cases were committed by the intelligent staff who knew the system very well.

According to the findings from the survey, the major type of fraud incident in the bank was Phishing and internet fraud. Fraudsters created the fake bank page and tried to get the customer financial information from the bank's customer nowadays. Then, they gained the access to the bank mobile banking application and withdrew the money through ATM or mobile agents. Moreover, the other major types of bank frauds were unauthorized funds transfer from the customer account, ATM fraud, card fraud and ecommerce fraud.

The study also measures the fraud risk management practices namely preventive, detective and responsive and it uses the five-point Likert scale assessing the extent level of the bank practice in prevention, detection and responding of the occurrence of fraud incidents in the bank. Thus, the study suggests that the higher mean value, the greater extent of respective fraud risk management practice used in the bank. In comparison of the three components, it is found that responsive fraud risk management practice is the highest among the three practices, followed by detective and then preventive fraud risk management practice. The findings of the study indicated that reactive risk management strategy was used as a strategic approach to

fraud prevention, detection and responding by banks as shown by an average mean score is 3.21.

According to Pearson correlation test to analyze the effect of fraud risk management practice on the performance of the bank, the preventive and detective fraud risk management practices are positively weakly correlated with the financial performance as well as non-financial performance. However, the responsive fraud risk management is positively fairly correlated with the performance of the bank.

Using the hierarchical multiple regression analysis, the study examined the moderating effect of risk culture on the relationship between fraud risk management practices and bank performance and it found that the risk culture had a significant moderating effect on the relationship between fraud risk management practice and both financial and non-financial performance.

5.2 Conclusion and Recommendation

The study's conclusion was focused on the analysis goal: to establish the connection between CB bank's fraud risk management activities and its financial and non-financial performance.

First, from the study it can be concluded that the fraud occurred in CB bank has affected by bank was occasionally prevalent. This implies that although the bank has been growing number of branches, number of employees and using new technology, it has implemented fraud risk management practices that cushion it against the unfavorable impact that may emerge because of misrepresentation.

Second, phishing and internet fraud have been the major fraud events in the banking industry today because of the developments in the technology and the lack of proper public safety awareness training by the bank. In addition, ineffective internal control systems, greed or financial difficulties and the insufficient prosecution of fraudsters have been the main causes of bank fraud. Furthermore, although the bank has established the internal control system, most of the respondents believe that the strict supervision is needed by the management.

Third, the analysis can also conclude that the major strategy of CB bank to handle fraud risk is reactive. Fourth, fraud risk management practices and the performance of the bank was positively weakly correlated because most of the respondents did not agree that these fraud risk management practices can have a large impact on the performance of the bank. However, the respondents viewed that if the

bank has implemented risk culture properly, it can help to reduce the occurrence of fraud incidents in the bank. Regarding the risk culture as a moderator, there is a positive significant moderating effect of risk culture on the responsive fraud risk management and financial performance as well as non-financial performance.

In conclusion, though the bank has established and implemented preventive and detective fraud risk management practices, they are seemed to be weak to reduce the fraud risk. The more the bank focuses on the service quality to the customers, the more difficult to follow and implement the strong internal control system. Therefore, the bank should balance the service and risk properly. Moreover, the bank should implement the large extent of preventive and detective fraud risk management practices. Effective fraud risk management requires the Board and senior management to take ultimate responsibility for the bank's fraud risk programs. Their role include, setting the right tone at the top, providing adequate resources for the fraud risk management function. Incorporation of fraud risk management in key performance indicators of employees' performance evaluation and incentive programs for promotion, accrual, and payout of the incentive. Moreover, the bank should prioritize the establishment of a risk governance structure which lays out the roles and responsibilities of the Board, senior management, risk and control functions, risk champions, business units, and auditors. The clarity on roles and responsibilities will enhance the risk culture and risk governance and effectively a bank's fraud risk management program.

5.3 Needs for Further Study

The purpose of this study was only limited to identify the existing relationship between fraud risk management process and the performance in the financial institution. The direct focus of this study was CB Bank and its performance. The results therefore were limited with regards to generalization, and therefore are not a complete representation of the entire organization and the whole banking industry. Considering the numerous topic issues that surround the topic of fraud risk management process and the performance that have not been addressed by this study, additional research should be carried out in order to improve the current study and increase information and understanding to effective fraud risk management process.

In fact, there are some areas that the study didn't touch such as assessing the impact of fraud risk management in the performance of financial institutions. Although this study has provided enough evidence regarding the effect of fraud risk management practices on the performance but there are certain limitations.

The study has focused on only the senior and middle level managers in CB bank. The scope and sample size may have been increased by including the employees of CB bank at all levels. Further studies should examine the entire population of the commercial banks in Myanmar. This will enable generalization of the findings in the entire industry. In addition, there is need to replicate these results to other sectors such as manufacturing industry and agricultural industry to establish the relationship between fraud risk management practices and the performance of firms in other sectors. Lastly the study focused on the selected fraudulent management practices in CB bank in Myanmar. There are other practices that have equally important contribution towards fraud management. Therefore, other studies should focus on other practices not considered and how they can be incorporated in the variable to enhance further financial and non-financial performance of commercial banks in Myanmar.

REFERENCES

- ACFE. (2015). *Fraud risk management: overview The United States of America*. Retrieved from [https:// doi. org/ 10.1002/9781119203889.ch8](https://doi.org/10.1002/9781119203889.ch8)
- ACFE. (2009). *Managing the business risk of fraud : A practical guide*.
- ACFE. (2010). *Report to the nations: On occupational fraud and abuse*.
- Albrecht SW, A. C. (2012). *Fraud Examination*. South-Western Cengage Learning (Fourth).
- Aliyu NS, J. C. (2014). *The mediating role of management control system in the relationship between corporate governance and the performance of bailed-out banks in Nigeria*.
- Antony JP, B. S. (2010). *Measuring organizational performance and organizational excellence of SMEs – Part 1: a conceptual framework*. *Measuring Business Excellence*.
- Australian Standard. (2008). *Fraud and Corruption Control, AS 8001-2008 & Australia*.
- Baron, R. &. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*.
- Baron, Reuben & Kenny, David. (1987). The Moderator-Mediator Variable Distinction in Social Psychological Research. *Journal of personality and social psychology*.
- Burnaby P, H. M. (2009). Detecting fraud in the organization : An internal audit perspective. *Journal of Forensic & Investigative Accounting*.
- Chartered Institute of Management Accountants. (2009). *Fraud risk management: A guide to good practice*.
- CIMA. (2008). *Fraud risk management: A guide to good practice*.
- Coakes, S. S. (2008). *SPSS version 15.0 for windows*:. John Wiley & Sons.
- Cohen, J. C. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences. 3rd ed*. Lawrence Erlbaum.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences (3rd ed.)*. Lawrence Erlbaum Associates Publishers.
- Cramer, D., & ebrary, I. (2003). *Advanced quantitative data analysis*. Open University Press.
- Cressey. (1971). *Other people's money: A study on the social psychology of embezzlement*.
- Cressey, D. (1973). *Other people's money, Montclair*. Patterson Smith.

- DeVellis, Robert. (2003). *Scale development: theory and applications, applied social research methods*. Thousand Oaks.
- Dominic PR, L. N. (2015). Cutting fraud losses in Canadian organizations. *Journal of Financial Crime*.
- Dossi A, P. L. (2010). *You learn from what you measure: Financial and non-financial performance measures in multinational companies*. Long Range Planning.
- Elnihewi IM, M. R. (2017). *Contextual factors of performance measurement systems design in Libyan commercial banks*.
- Enfore, A., Abilogun, T., Omoolorun, A., & Elaiho, E. M. (2017). Bank Fraud and Preventive Measures in Nigeria: An Empirical Review. *International Journal of Academic Research in Business and Social Sciences*.
- Furlan Š, V. O. (2011). *Method for selection of motor insurance fraud management system components based on business performance*. Technological and Economic Development of Economy.
- Geretto EF, P. R. (2015). Knowledge management and risk culture in the banking industry : Relations and problems. *Academic Conferences International Limited*. In European Conference on Knowledge Management.
- GIKIRI LUCY WAIGUMO. (2012). *AN INVESTIGATION OF THE EFFECT OF FRAUD RISK MANAGEMENT PRACTICES ON FRAUD RISK IN COMMERCIAL BANKS IN KENYA*.
- Gweyi MO, K. J. (2014). *The effect of financial leverage on financial performance of deposit taking savings and credit co-operative in Kenya*.
- H. S. (2015). The Role of Auditors in Preventing, Detecting, and Reporting Fraud: The Case of the United Arab Emirates (UAE). *International Journal of Auditing*.
- Hakkak M, G. M. (2015). Development of a Sustainable Competitive Advantage Model Based On Balanced Scorecard. *International Journal of Asian Social Science*.
- Halbouni, Sawsan. (2015). The Role of Auditors in Preventing, Detecting, and Reporting Fraud: The Case of the United Arab Emirates (UAE). *International Journal of Auditing*.
- Hales J. (2005). *Accounting and financial analysis in the hospitality industry*.
- Henri JF. (2004). *Performance measurement and organizational effectiveness: bridging the gap*. Managerial Finance.
- Hernaus T, B. M. (2012). Influence of strategic approach to BPM on financial and non-financial performance. *Baltic Journal of Management*.
- Hoffmann A, B. C. (2012). The impact of fraud prevention on bank-customer relationships: An empirical investigation in retail banking. *International Journal of Bank Marketing*.

- Hussain M, G. A. (2002). *Non-financial management accounting measures in Finnish financial institutions. European Business Review.*
- Idowu, A. (2009). An Assessment of fraud and its management in Nigeria commercial banks. *European journal of social sciences.*
- Jha S, H. X. (2012). A comparison of financial performance of commercial banks : A case study of Nepal. *African Journal of Business Management.*
- Kapardis MK, P. K. (2016). Fraud victimization in Greece: room for improvement in prevention and detection. *Journal of Financial Crime.*
- Kaplan RS, N. D. (1996). *The Balanced Scorecard: Translating Strategy Into Action. Proceedings of the IEEE. Boston, Massachussets: Harvard Business School Press.*
- Karthik, K. V. (2018). *India Banking Fraud Survey Edition III.*
- Kim, W. G. , & Cha, Y. . (2002). Antecedents and consequences of relationship quality in hotel industry. *International Journal of Hospitality Management.*
- Kinyua JK, G. R. (2015). Effect of Internal Control Environment on the Financial Performance of Companies Quoted in the Nairobi Securities Exchange. *International Journal of Innovative Finance and Economics Research.*
- KPMG. (2011). *Global Banking Fraud Survey.*
- KPMG. (2014). *Fraud barometer.*
- KPMG. (2014). *Fraud Risk Management: Developing a strategy for prevention, detection and response.*
- KPMG. (2016). *Global profiles of the fraudster.*
- KPMG. (2019). *Global Banking Fraud Survey.*
- Kpodo B, A. K. (2015). The effects of risk culture on organisational performance - The cases of some selected financial institutions in Ghana. *International Journal of Science and Research.*
- Levy C, L. E. (2010). *Taking control of organizational risk culture.*
- Malhotra, N. K. (2010). *Marketing Research: An Applied Orientation.*
- Mugenda, A. and O. Mugenda. (1999). *Research Methods: Quantitative and Qualitative Approaches.* ACTS Press.
- Mugenda, A. and O. Mugenda. (2006). *Research Methods: Quantitative and Qualitative Approaches.* ACTS Press.
- Mugenda, A. and O. Mugenda. (2009). *Research Methods: Quantitative and Qualitative Approaches.* ACTS Press.
- Njenga N, O. P. (2013). Effect of fraud risk management on organization performance: A case of deposit taking microfinance institutions in Kenya. *International Journal of Social Sciences and Entrepreneurship.*

- Nyein Nyein. (2018). Retrieved from <https://www.moi.gov.mm/moi:eng/?q=news/27/09/2018/id-15007>
- Olongo FO. (2013). *The effect of financial fraud and liquidity on financial performance of commercial banks in Kenya.*
- Otache I, M. R. (2015). Entrepreneurial orientation and performance of Nigerian banks: The mediating effect of teamwork. *Mediterranean Journal of Social Sciences.*
- PWC. (2008). *Fraud: A guide to its prevention, detection and investigation.*
- Rahman, R. A., & Salim, M. R. (2010). *Corporate Governance and Fraud Prevention in Malaysia.*
- Rahman, R., & Anwar, I. (2014). Effectiveness of fraud prevention and detection techniques in Malaysian Islamic Banks. *International Journal of Social and Behavioural Sciences.*
- Rasid SZA, G. N.-Z. (2017). Enterprise risk management, performance measurement systems and organisational performance in Malaysian public listed firms. *International Journal of Business and Society.*
- Robert K. Elliott, J. J. (1980). *Management fraud : detection and deterrence.*
- Ronaldo Opiyo Ohando. (2014). *Relationship between fraud risk management practices and financial performance of commercial banks in Kenya.* Retrieved from <https://pdfs.semanticscholar.org/0196/9d2c7e83a16797aa0db1bac9d4e1551381cf.pdf>
- Saeidi P, S. S. (2014). A proposed model of the relationship between enterprise risk management and firm performance. *International Journal of Information Processing and Management.*
- Samuel, R. S., & Rory, J. L. (2019). Retrieved from [https://uk.practicallaw.thomsonreuters.com/w-009-2104?transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/w-009-2104?transitionType=Default&contextData=(sc.Default))
- Sanusi ZM, R. M. (2015). *Fraud Schemes in the Banking Institutions: Prevention Measures to Avoid Severe Financial Loss.*
- Saunders, Mark & Lewis, P. & Thornbill, A. (2000). *Research Methods for Business Studies.*
- Smith, M., Omar, M., Idris, S., & Baharuddin, I. (2005). Auditors' perception of fraud risk indicators: Malaysian evidence. *Managerial Auditing Journal.*
- Stuart Greenbaum Anjan Thakor. (2007). *Contemporary Financial Intermediation.* Academic Press.
- Umaru, H., Arpah, A. B., & Muhammad-Bashir, O. Y. (2019). The effect of fraud risk management, risk culture and performance of banking sector: A conceptual framework. *International Journal of Multidisciplinary Research and Development.*

Vousinas, G. (2016). The critical role of Internal Auditing in addressing bank fraud : A conceptual framework. *Journal of Economics Literature*.

Wu HY, T. G. (2009). A fuzzy MCDM approach for evaluating banking performance based on Balanced Scorecard. *Expert Systems with Applications*.

Wu, J., & Liu, D. (2007). *The Effects of Trust and Enjoyment on Intention to Play Online Games*.

Zhang, Waszink & Wijngaard. (2000). An instrument for measuring TQM implementation for Chinese manufacturing companies. *International Journal of Quality & Reliability Management*.

Zikmund, W.G. (2003). *Business Research Methods*. Thomson.

www.cbcbank.com.mm

www.cbm.gov.mm

APPENDIX
QUESTIONNAIRE

This questionnaire is meant to collect information on the effect of fraud risk management practices of CB Bank in Myanmar as part of my master thesis paper of Executive Master of Banking and Finance Program.

The information collected will be used for academic purpose only and it will be treated as strictly confidential.

Section A: General Information of Sample Respondent

1. What is your gender?

- Male Female

2. What is your age group?

- 20-29 years
 30-39 years
 40-49 years
 50-59 years

3. What is your highest education level?

- Diploma
 Bachelor
 Master
 Phd

4. What is your current position in CB Bank?

- Assistant Manager
 Deputy Manager
 Manager
 Assistant General Manager
 Deputy General Manager
 General Manager

5. How long have you been working in CB Bank?

- 1-5 years
 6-10 years

- 11-15 years
- 16-20 years
- 21 years and above

6. Which division are you currently working in CB Bank?

- Branch
- Consumer Banking
- Transaction Banking
- Business & Institutional Banking
- Regional/Zone Office
- Risk Management
- Compliance
- Audit
- System
- Card & Merchant Services
- Treasury

7. How adversely has the bank been affected by banking fraud? Fraud is ...

- Highly prevalent
- Moderately prevalent
- Occasionally prevalent
- Has never occurred

8. Have you discovered fraud and handed it over Fraud Investigation Team?

- Yes
- No

9. Have you involved in Fraud Investigation Team?

- Yes No

10. If Yes, what was your role in Fraud Investigation Team?

- Member
 Team Leader

11. What are your views on the following causes of fraud in the banking sector?

Use a scale of 1 to 5 where 1= highly disagree, 2=disagree, 3 = Neutral, 4= Agree, 5 = Highly agree

	Causes of Bank Fraud	1	2	3	4	5
1.	Greed/Financial Difficulties					
2.	Poor record keeping					
3.	Poor internal control					
4.	Poor salaries					
5.	Inadequate staff					
6.	Inadequate training					
7.	Lack of effective reporting mechanism					
8.	Lack of appropriate punishment to fraudsters					
9.	Intelligent staff who wants to check whether the controls are existing					

12. The table below shows the different types of fraud that your bank faces. Kindly indicate the extent of prevalence of the fraudulent activities. Give your ratings in a Likert scale of 1 to 5 where 1= Not at all, 2 = Small extent, 3 = Moderate extent, 4= Large extent, 5 = Very large extent.

	Types of Fraud	1	2	3	4	5
1.	Misuse of asset					

2.	Card fraud					
3.	Ecommerce fraud					
4.	ATM fraud					
5.	Missing some cash notes from cash packets					
6.	Unauthorized funds transfer from customer account					
7.	Unauthorized funds transfer from internal account					
8.	Phishing and internet fraud					
9.	Money laundering					
10.	Cheque fraud					
11.	Fraudulent loan application					
12.	Payroll fraud					

Section B: Preventive Fraud Risk Management Practices

13. To what extent does your bank use the following preventive fraud risk management practice in prevention of the occurrence of the fraud accidents in the bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent)

		1	2	3	4	5
1.	Fraud risk assessment plan					
2.	Board, audit committee and senior management oversight					
3.	Establishment of effective code of conduct and related standards					
4.	Specific and general training e.g. Ethics training, Risk Awareness training, etc.					

5.	Pre-employment screening					
6.	Use of information technology to prevent fraud					
7.	Establishment of strong internal controls					
8.	An effective reporting mechanism					
9.	Reward for whistle blowers					

Section C: Detective Fraud Risk Management Practices

14. To what extent does your bank use the following detective fraud risk management practice in detection of the occurrence of the fraud accidents in the bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent)

		1	2	3	4	5
1.	Monitoring systems designed to detect fraud					
2.	External audit					
3.	Internal audit					
4.	Account reconciliation process					
5.	Management review					
6.	Job rotation program					
7.	Whistle blowing hotline					
8.	Confessions					
9.	Tip-off					

Section D: Responsive Fraud Risk Management Practices

15. To what extent does your bank use the following responsive fraud risk management practice in responding of the occurrence of the fraud accidents in the bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent)

		1	2	3	4	5
1.	Conducting internal investigation					
2.	Disclosing the results of internal investigations to the regulator					
3.	Prosecution of the offender					
4.	Strengthening internal controls					
5.	Communicating to the employees that management took appropriate action					
6.	Public disclosure of fraud and misconduct					
7.	Recovery of stolen funds					

Section E: Fraud Risk Management Practices and Performance of CB Bank

16. In your opinion, what impact has the occurrence of fraud had on the financial performance of your bank?

- No impact
- Less impact
- Medium impact
- Large impact
- Very large impact

17. In your opinion, what impact has the occurrence of fraud had on the non-financial performance of your bank?

- No impact
- Less impact
- Medium impact
- Large impact
- Very large impact

18. What is your view on the following statements refer to the relationship between fraud risk management practices and financial performance of the bank? Please indicate your opinion using the scale of 1 to 5 where 1= highly disagree, 2 = 2=disagree, 3 = Neutral, 4= Agree, 5 = Highly agree.

		1	2	3	4	5
1.	The bank has been able to prevent the incidences and occurrence of fraud.					
2.	The bank's fraud risk management practices have improved bank profitability.					
3.	Well established fraud risk management practices have seen the bank save a lot of fraud investigation cost.					
4.	The bank has been able to recover losses due to fraud.					
5.	The bank has sufficiently employed resources towards fraud risk management that have resulted to save a financial loss.					

19. What is your view on the following statements refer to the relationship between fraud risk management practices and non-financial performance of the bank? Please indicate your opinion using the scale of 1 to 5 where 1= highly disagree, 2 = 2=disagree, 3 = Neutral, 4= Agree, 5 = Highly agree.

		1	2	3	4	5
1.	The bank's fraud risk management practices have improved its bank reputation.					
2.	Well established fraud risk management practices have helped to increase the confidence of investors.					
3.	Fraud risk management practices of the bank have influenced on the trust of customers.					
4.	The bank's fraud risk management practices have given the competitive advantage.					

Section F: Risk Culture

20. To what extent does the risk culture impact on the fraud risk management practices and performance of a bank? Give your ratings in a Likert scale of 1 to 5 (Where 1 = Not at all 2 = Small extent 3 = Moderate extent 4 = Large extent 5 = Very large extent)

		1	2	3	4	5
1.	Risk awareness program through a formal education and training programme					
2.	A code of ethics or similar document to guide staff about ethical standards in bank.					
3.	Incentives for staff to uphold the bank's standards of ethical conduct					
4.	Periodic assessment of fraud risk management practices					
5.	Establishment of adequate risk measurement control					