



SEEK WISDOM, ELEVATE YOUR INTELLECT AND SERVE HUMANITY !



ADDIS ABABA UNIVERSITY
College of Business & Economics
Department of Accounting and Finance

**Effects of Fraud on Bank Performance in Ethiopian Commercial
Banks**

By
Tewodros Yalew

**A thesis submitted for partial fulfillment of the requirements for the
Degree of Masters -MSC in Accounting and Finance**

Advisor:
Dr. Alem Hagos

April, 2021
Addis Ababa, Ethiopia

DECLARATION

I declare that the thesis for the MSc degree at Addis Ababa University, hereby submitted by me, is my own work and not previously submitted at any other university, and which all reference materials contained therein are duly acknowledged.

Tewodros Yalew

Signature: -----

STATEMENT OF CERTIFICATION

This is to certify that Tewodros Yalew has carried out a thesis on the topic entitled “The effect of fraud on the financial performance of commercial banks in Ethiopia” under my supervision. In my opinion, this thesis is suitable for submission in partial fulfillment of the requirements for the award of the MSc Degree in Accounting and Finance.

Advisor: Alem Hagos (PhD)

Signature: _____

Approved by:

Examiner:

Examiner:

Signature: _____

Signature: _____

TABLE OF CONTENTS

ABSTRACT	vii
ACKNOWLEDGEMENTS.....	viii
LIST OF ABBREVIATIONS	ix
CHAPTER ONE	1
INTRODUCTION.....	1
1.1. Background of the Study	1
1.2. Background of the organization.....	2
1.3. Statement of the problem	6
1.4. Research questions	7
1.5. Research Objectives	7
1.6. Scope of the Study	8
1.7. Significance of the study.....	9
1.8. Limitation of the study	9
1.9. Ethical consideration.....	9
1.10. Organization of the study	10
CHAPTER TWO	11
LITERATURE REVIEW.....	11
2.1. Theoretical Literature	11
2.1.1. Differential Association.....	11
2.1.2. Theory of Fraud Diamond	12
2.1.3. The Theory of Fraud Triangle	12
2.1.4. The Anomie Theory on Fraud.....	12
2.1.5. Social Control Theory	13
2.2. The Causes of Bank Frauds	13
2.2.1. Technological Causes of Fraud	13
2.2.2. Legal Causes of Fraud	14
2.2.3. Personal Causes of Fraud	14
2.2.4. Management Causes of Fraud	15

2.3. Types of Fraud	15
2.3.1. Unauthorized Withdrawals.....	15
2.3.2. Unauthorized Use of Credit or Debit Card	16
2.3.3. Illegal Foreign Exchange Trading Scheme	16
2.3.4. Illegal Deposit Taking.....	16
2.3.5. Fraudulent Money Transfer	16
2.3.6. Theft and Embezzlement.....	17
2.4. Effects of Fraud on Financial Performance of commercial banks	17
2.5. Empirical Review.....	17
2.6. Summary of Literature Review	20
2.7. Conceptual framework of the study	20
CHAPTER THREE	22
RESEARCH METHODOLOGY AND DESIGN.....	22
3.1. Research methods	22
3.2. Research Design.....	22
3.3. Target Population of the Study.....	23
3.4. Sample and Sampling Techniques	24
3.5. Data Collection	25
3.6. Data Analysis	26
3.7. Data validity and reliability.....	26
3.8. Analytical Model	27
CHAPTER FOUR	29
DATA ANALYSIS AND DISCUSSION	29
Introduction	29
4.1. Response Rate	30
4.2. Respondent Profile	30
4.3. Descriptive Statistics	32
4.4. CLRM assumption and diagnostic test	39
4.4.1. Correlation Analysis	39
4.4.2. Heteroskedasticity test.....	41
4.4.3. Normality test	41
4.4.4Auto correlation.....	42

4.5. Regression Results	43
4.5. Discussion and Interpretation of Findings.....	45
CHAPTER FIVE.....	48
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	48
Introduction	48
5.1 Summary of Findings.....	48
5.2 Conclusion	49
5.3. Recommendations	50
5.4. Suggestions for Further Research.....	52
REFERENCES	53
APPENDICES	57

LIST OF TABLES

Table1. 1 Summaries of Fraud Cases.....	5
Table3. 1 Target Population	23
Table3. 2 Sampling Frame	25
Table3. 3 Reliability Statistics	27
Table4. 1 Gender Categories of the Respondents	30
Table4. 2 Age of Respondents.....	31
Table4. 3 Educational Background of respondents	31
Table4. 4 Work experience of the Respondents	32
Table4. 5 Extent of agreement that various types of frauds occur in the commercial banks	32
Table4. 6 Causes of fraud in the commercial banks	33
Table4. 7 Extent that various factors affect fraud in the commercial banks.	35
Table4. 8: Perpetrators of fraud in the commercial banks	36
Table4. 9: Extent that various factors of fraud affect financial perform.....	37
Table4. 10 Types of damage caused by fraud in commercial banks.	38
Table4. 11 Monetary loss from the fraud incidence	39
Table4. 12 Matrix of correlations	40
Table4. 13. Heteroskedasticity test	41
Table4. 14 Normality test	42
Table4. 15. Autocorrelation test	42
Table4. 16. Summary of results of the regression analysis	43

ABSTRACT

Bank fraud in Ethiopia has increased in alarming rate. According to 2018 and 2019 annual report of federal police crime Investigations bureau, Ethiopian banks lost 326,343,280 birr over the last two years. The aim of the study is to assess the effects of fraud on bank performance in Ethiopia commercial banks. This study used explanatory research design. The population of interest in this study was the commercial banks which are operate in Ethiopia. The study sampled 9 commercial banks out of the 18 banks. The selection of the respondents was done through a stratified random sampling technique. The total number of the sample was 120 respondents drawn from; Management, tellers, loan's department, accounts opening department and Customer Care. Both Primary and secondary data was collected for the study. Primary data was gathered through questionnaire. The Secondary data was collected from annual report of national bank of Ethiopia and selected commercial banks. Multiple Regression analysis model was used to assess the impact of independent variables on the dependent variable. The study revealed that management causes of fraud, technological causes of fraud, legal cause of frauds and personal causes of fraud are influencing the performance of Ethiopian commercial banks. The study therefore concludes that fraud influences the financial performance of in Ethiopian commercial banks. This paper recommends that commercial banks in Ethiopia must apply good financial governance control measures that help to discover fraud and supervise all the transactions that are considered vulnerable to fraud.

Keywords: *Commercial Bank, Frauds, performance of commercial banks, Causes of fraud*

ACKNOWLEDGEMENTS

The greatest thanks go to the almighty GOD and his mother Saint Marry, for everything they do in my life. I am greatly thankful to my advisor Alem Hagos (PhD) for his unreserved and vital advice, helpful criticism and encouragement.

I am also indebted to thank the manager and employees of the commercial banks for their genuine response and cooperation in providing the necessary data requested and all of my family and friends who contributed for this research to be fruitful & who were there besides me, you devoted same effort as me.

LIST OF ABBREVIATIONS

ACFE: Association of Certified Fraud Examiners

ATM: Automatic Teller Machine

BAFIA: Banking and Financial Institutions Act

CBE: Commercial Bank of Ethiopia

ECA: Exchange control act

EFT: Electronic Fund Transfer

FCIB: Federal Crime Investigation Bureau

ISA: International Standards on Auditing

NBE: National Bank of Ethiopia

PIN: Personal Identification Number

ROA: Return on Assets

SACCO: Savings and Credit Cooperative Societies

STATA: Statistics and Data.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The banking industry has become one among the foremost critical sectors within the economy with wide effect on the extent and direction of economic growth and transformation and on economic variables like the rate of unemployment and inflation which directly affect the lives of our people.

Today, the very integrity and survivability of these laudable functions of banks are deteriorated in sight of incessant frauds. The Association of Certified Fraud Examiners annual fraud report indicates that many organizations lose \$ 3.6 billion and 5 % of their profit due to fraud annually (ACFE, 2019, as cited in Chalangat, 2014). Chalangat also suggested that organizations should attempt to minimize the probabilities of fraud occurring through developing anti fraud policies, proper internal controls and good governance among others.

According to Nwankwo (1991), Fraud arises when a person/organization in position of trust and responsibility deliberately breaks the principles of personal or corporate gains at the expense of public interest. It is a worldwide malaise that spares no institution and economy.

Bank fraud which is the subject matter of this study is that the use of fraudulent means to get money, assets, or other property possessed or held by a financial organization, or to get money from depositors by illegally representing to be a bank or financial organization. For an action to be fraud there must be a deceitful intention and therefore the act must be intended to advantage the perpetrators on the harm of another person (Olongo, 2013).

According to the International Standards on Auditing (as cited in chalangat,2014) Fraud refers to a deliberate act by one or more persons among management, those charged with governance, employees or third parties involving the utilization of deception to get an unjust or illegal advantage. According to Idowu (2009) in his study on the assessment of fraud and its management in Nigeria commercial banks explain fraud as the deliberate falsification, disguise or omission of the truth for the aim of fraud or manipulation to the financial loss of a private or institution. National bank of Ethiopia licensing and supervision of banking business fraud monitoring directive No SBB/59/2014 defines fraud as an act or omission by share holders, directors, employees, customers committed with the intention of gaining dishonest or unlawful advantage for the party or for other parties committing fraud. All the above meanings indicate that fraud is deliberate act and it has financial loss to the other person or the organization.

1.2. Background of the organization

Banking business in Ethiopia has its origin dates back to 1905 the time when was the modern banking started. The agreement between Emperor Minilik II and Mr.MaGillivray, delegate of the Egyptian national bank in 1905 marked the beginning of modern bank industry in Ethiopia. After the consensus of Minilik II and Mr.MaGillivray, bank of Abyssinia which was the first bank in Ethiopia was launched in Feb.16, 1906 by Minilik II (Alemayehu, 2006).

The Ethiopian banking sector is currently comprised of a central bank (The National Bank of Ethiopia or NBE), two government owned banks and sixteen private banks. According to national bank of Ethiopia 2019 annual report total resources mobilized by the banking system in the form of deposit, borrowing and loan collection improved by 3.4% and achieved Birr 308.3 billion in the financial year of 2018/19. Deposit liabilities of the banking system topped Birr 899.6 billion, reflecting 23.2 percent annual growth aided by remarkable branch expansion.

Saving deposits grew by 27.4 percent followed by time deposits (25.6 percent) and demand deposits (16.5 percent). Of the total deposits, saving deposits accounted for 54.2 percent, demand deposits 35.1 percent and time deposit (10.8 percent). Based on the most recent data, Commercial Bank of Ethiopia (CBE) mobilizes more than 60.3 percent of total bank deposits, bank loans and foreign exchange and also dominates the market in terms of assets, deposits, bank branches, and total banking workforce (NBE, report 2019).

Olango (2013) stated that:

Sound financial health of a bank is that the guarantee not only to its depositors but is equally significant for the shareholders, employees and therefore the whole economy also.(p.5)

According to National bank of Ethiopia Banking Business Proclamation (Amendment) No. 1159-2019 Commercial Banks has an obligation each year to submit their audited financial statements and reports to the national bank of Ethiopia. Based on the financial data obtained from Audited financial statements it is possible to evaluate the financial performance of commercial banks.

Financial performance of commercial banks can be measured by profitability. Based on Codjia (2010), financial performance will check out at the statement of an accounting summary that details a business organization's revenues, expenses and net income. A corporation may prepare a statement of financial performance on a monthly, quarterly or annual basis (Codjia, 2010). Bank profitability and bank interest margins are often seen as indicators of the (in) efficiency of the banking industry, as they drive a wedge between the rate of interest received by savers on their deposits and therefore the interest paid by lenders on their loans (Kunt et al., 2001).

Chelangat (2014) explained that the banking business is one among the foremost profitable within the financial system, superior performance might have been achieved in their role in the activation of the economy, formation of capital to shareholders and rendition of social obligations to the general public. The Ethiopian Banking industry achieved better performance with the loans amounting to birr 72.2 billion and the deposit base place at birr. 899.7 billion (NBE, 2019).

Fraud in Ethiopia has been increase in the past and financial institutions are severely affected by it. Financial organization in Ethiopia consists of Commercial Banks, Savings & Credit associations, insurance companies, and Micro Finance Institutions. Commercial banks in Ethiopia are adversely suffering from various types of frauds due to the recent computerization of bank products and services including the large financial assets handled by the banks. The recent use of computers, the internet and other electronic devices for banking services in commercial banks in Ethiopia has made certain fraudulent activities more efficient, faster and simply concealed. National bank of Ethiopia (2018) identified different sorts of bank frauds, which include payment against unclear cheques, unauthorized lending and borrowing, impersonation, and money laundering. According to national bank of Ethiopia and Federal crime investigation bureau (FCIB) annual crime report of 2018 and 2019, Ethiopian Commercial Banks has lost more than **326,343,280 birr** to a bank fraud (FCIB, 2018&2019). The table below showed that almost all the banks in Ethiopia are not exempted from Fraud.

Table 1. 1 Summary of Fraud Cases

<i>No</i>	<i>Name of the bank</i>	<i>No of cases</i>	<i>Amount</i>	<i>Percentage</i>
1.	Commercial bank of Ethiopia (CBE)	46	149,824,271.32	46%
2.	Nibe bank	2	1,760,076.60	0.53%
3.	Anbesa bank	2	3,881,400.00	1.2%
4.	Buna bank	2	7,626,400.00	2.3%
5.	Dashen bank (DB)	2	28,981,400.00	8.9%
6.	Oromiya international bank (OIB)	6	80,652,000.00	24.7%
7.	Enat bank (EB)	2	8,268,428.71	2.8%
8.	Addis international bank	2	9,281,400.00	2.8%
9.	United bank	3	8,381,400.00	2.6%
10.	Abbay bank	2	2,931,400.00	0.9%
11.	Wegagen bank (WB)	3	3,750,400.00	1.1%
12.	Awash bank	3	18,848,303.37	5.8%
13.	Berhan bank	2	2,156,400.00	0.7%
<i>Total</i>		<i>77</i>	<i>326,343,280 birr</i>	<i>100%</i>

Source federal crime investigation bureau 2018-2019

1.3. Statement of the problem

Chelangat (2014) stated that Fraud is a universal problem and influences every business, industry and organization. It leads to losses that continue to cause significant problem to industries, even though significant progress in fraud detection technologies. Association of Certified Fraud Examiner (2019, as cited in Chelangat,2014) in its Global fraud study report to the nations on work-related fraud abuse demonstrate that a typical organization losses 5 percent of its annual returns due to fraud. According to Kroll (2013, as cited in Chelangat, 2014), 70 percent of organizations reported suffer from at least one kind of Fraud.

Chiezey & Onu (2013, as cited in Chelangat,2014) studied the effect of fraud practices on the performance of banks in Nigeria banking industry. Among the result of the study is that the participation of employees in frauds and fraudulent practices. The study suggested the requirement for the concerned bodies to make stronger law enforcement organizations to combat fraud. Idowu (2009, as cited in Olongo,2013) did a study on the assessment of financial fraud in Nigerian commercial banks the result of this study indicated that, there are many factors contribute to the occurrence of bank frauds some of them are greed, poor salary, insufficient working conditions, bank employees who are stay many years on a particular job and workers who are sense frustrated as a result of low remunerations. Okoye and Gbegi (2013, as cited in Chelangat,2014) did a study on the assessment of the impact of fraud and associated crimes on the Nigerian Economy. Poor compensation, lack of appropriate workers training and absence of appropriate background check on employees are some of the causes of frauds in Nigeria banking industry (Idolor ,2010, as cited in Chelangat,2014).

Based on the data from the federal crime Investigation bureau, fraudsters have stolen **326,343,280 birr** from Ethiopian commercial banks in the past two years (FCIB, 2018&2019). Here in Ethiopia, Most studies which are concentrated in the Banking Sector have focus on fraud management and internal control mechanisms to control bank fraud. But there is no research that made on the causes of fraud and their effect on the financial performance of commercial banks. This is the gap in literature that this study is wants to fill. The aim of this study is therefore to discover causes of fraud related to Ethiopian commercial banks and its effect on their financial performance.

1.4. Research questions

This study will answer the following research questions at the end of the study.

- What are the characteristics of fraud in Ethiopian commercial banks?
- How do the management causes of fraud impact on the performance commercial banks in Ethiopia?
- How do technological causes of fraud impact on Performance of commercial banks in Ethiopia?
- Does fraud due to legal causes have effect on performance of commercial banks in Ethiopia?
- Do personal causes of fraud have effect on the performance of commercial banks in Ethiopia?

1.5. Research Objectives

The general objective of the study was to evaluate the effects of fraud on the financial performance of the commercial banks in Ethiopia.

The specific objectives of this study are:

- To examine the characteristics of fraud in Ethiopian commercial banks.
- To examine the effect of the management causes of fraud on financial performance commercial banks in Ethiopia.
- To identify the effect of technological causes of fraud on Financial Performance of commercial banks in Ethiopia.
- To assess the effect of legal causes of fraud on financial performance of commercial banks in Ethiopia.
- To determine the effect of personal causes of fraud on the financial performance of commercial banks in Ethiopia.

1.6. Scope of the Study

This study was center on the effect of fraud in the Ethiopian banking industry with data covering 2016-2020. The scope of the study was delimited to commercial banks which are found in Addis Ababa. Even though it is very important to cover all the commercial banks across the country, due to the wide geographical dispersion of banks as well as time and money constraints the study was limited to only selected commercial banks in Addis Ababa which believed by the researcher to represent the hole industry. The total numbers of respondents were 105. The research is to be carried out in 2021. The study is used ROA as dependent variable and the independent variables are fraud due to management causes, fraud due to technological causes, fraud due to legal causes and fraud due to personal causes.

1.7. Significance of the study

The result of this paper has huge significance to the national bank of Ethiopia in their mandate to prevent and detect bank fraud and to identify distress signs and to take measures for the safety of the banking system. The findings of this study have great importance for the management of the banks and employees to respect their professional ethics and code of conduct. The study will also help financial fraud investigators and law enforcement institutions in their effort to investigate financial crimes and to know the cause and the effect of bank fraud.

1.8. Limitation of the study

Since the main purpose of this study is to assess the effects of fraud on performance of commercial banks in Ethiopia, a few banks consider data related to fraud are confidential and refuse to give the necessary information. Lack of previous studies on the topic in Ethiopia was also other limitation the researcher was encountered. One more limitation is related to a regression model which used to analyze the relationship between dependent and independent variables. The model could not be significant because of some limitations. Due to this other regression models can be better to study the relationships between the dependent and independent variables.

1.9. Ethical consideration

As of Bhattacharjee (2012), ethics is that the moral distinction between right and wrong, and what is unethical may not necessarily be illegal. Moreover, with regard to the importance of research ethics (Ibid.) has stated that, because, science has often been manipulated in unethical ways by people and organizations to advance their private agenda and interesting in activities

that are contrary to the norms of scientific conduct. Hence, the researcher would like to acknowledge all participants of this study and assures that the promised confidentiality has maintained. The researcher also confirms that the findings of this study certainly represent the response of the study participants. Furthermore, for this study the data collection, analysis and interpretation was done in an ethical manner of scientific procedures and the findings represents the real situation of the study unit of analysis.

1.10. Organization of the study

This paper is structured under five chapters. The first chapter is concerned with introduction which in turn contains background of the study, background of the organization, statement of the problem, objectives of the study, and so forth. Chapter two presents and elaborates both theoretical literatures and empirical review which includes theory and nature of fraud, causes of bank fraud, and types of fraud, empirical review and conceptual framework. Whereas, chapter three introduces the research approach and methodology which in turn includes research design, data type, unit of analysis, sampling design, research instrument, variables of the study, method of data analysis and validity and reliability of the study variables. Chapter four presents the results and discussions of the study which includes introduction, analysis and discussions of the study findings. And finally, chapter five presents the summary, conclusions and recommendations based on the study findings.

CHAPTER TWO

LITERATURE REVIEW

This literature review constructs a theoretical framework regarding banking fraud and provides a discussion focused on the research questions. The goal of the literature review is multi-fold. First, in Section 2.1 it presents the theoretical review relevant to this study. The discussion about the fraud theories leads into a discussion on the external and internal environmental factors that affect the levels of fraud. Section 2.2 presents the causes of fraud in the banking industry in a real-world context. It defines fraud within the context of this study. Section 2.3 presents the different types of fraud that are the main focus of this study. Various empirical evidence for fraud in the banking industry which are done on the same study has been examined in Section 2.4 while Section 2.5 is the chapter summary of what has been discussed.

2.1. Theoretical Literature

2.1.1. Differential Association

Differential Associationism theory as proposed by Edwin (1974, as cited in Olongo, 2013) states that Crime is learned like other issues or business. Learning of criminal activities occurs with other persons in a process of socialization. Fraud related problems are passed on to the community through criminal actions sponsored by the fraudulent gains. Fraud losses cause a major problem to many businesses including banks and other financial institutions.

2.1.2. Theory of Fraud Diamond

According to Wolfe and Hermerson, (2004, as cited in Olongo, 2013) a person's potential, personality characters and skills can play a serious role in determining whether fraud may occur. Olongo further cited that even though occasions open the door to fraud, incentive and rationalization will catch the attention of people, however, such person must have the potential to acknowledge the open entrance way as a chance and will be ready to take an unjustified advantage of the recognized loopholes.

2.1.3. The Theory of Fraud Triangle

According to Donald Cressey (1973, as cited in Olongo, 2013), fraud is probably going to occur due to a mixture of three causes i.e. Pressure, Opportunity and rationalization. Olongo further stated that trusted persons become violators once they imagine themselves as having a economic problem when they are conscious of this problem they are often secretly resolved by violation of the position of monetary trust, and are prepared to apply to their own behavior which allow them to regulate their idea of themselves as trusted persons with their conceptions of themselves as users of the entrusted money.

2.1.4. The Anomie Theory on Fraud

Olongo (2013) stated that:

In every competitive capitalist society, the other members of the society who are excluded from access to legitimate means to success and stardom will experience a way of relative deprivation which they struggle to alleviate try to relieve by way of social vices like(1) aggressive criminal behaviors, like bank frauds, and heist attacks,(2) Aggressive revolutionary behaviors like

Coup de tat within the military and (3) A retreat into psychosomatic illnesses like drug addiction, alcoholism, etc. (p.14)

2.1.5. Social Control Theory

Travis Harchis, (1969, as cited in Olongo, 2013), suggest that abusing the method of socialization and social learning helps to create in self control in persons and thus, decrease the tendency to indulge in conduct recognized as anti social.

2.2. The Causes of Bank Frauds

There are many factors that force personas to commit frauds. Kanu & Okorafor (2013) and Adebisi (2009) identified different causes of fraud. The most familiar causes are categorized as Legal, Social Technological, Personal, and Management.

2.2.1. Technological Causes of Fraud

According to Kanu & Okorafor, (2013, as cited in Olongo,2013) Continuous improvement in technology constitutes a major factor in enhancing fraud. The cost of committing fraud using existing technology is very low. Olongo further adds that technology assists near exactness of documents copying. It makes the planet to worldwide village. It has removed physical borders therefore fraud can be committed in a very long distance. The majorities of the technological fraudsters are youngsters and well educated persons and are often influenced by peers. Technological frauds aren't simple to detect or prevent. There are several user points universally where such frauds are often committed. Technological advancement is a continuous process. When a specific fraud method is being detected and prevented, other techniques are being developed.

2.2.2. Legal Causes of Fraud

Kanu & Okorafor, (2013, as cited in Chelangat,2014) stated that legal causes of frauds are those which occur due to the nature and practice of legal system. Chelangat further stated that Fraud cases by their nature are time- consuming to properly investigate them. This therefore indicates that the fraudster can perpetrate fraud and go simply before they are brought to court. The legal system also has incompetency due to corrupt practices in the low enforcement institutions. Fraud cases are also bail able and therefore perpetrators can easily release from prison.

2.2.3. Personal Causes of Fraud

According to Adebisi (2009, as cited in Olongo, 2013) there are qualified criminals whose main target is commit fraud on corporations and banks. They employ persons with impaired personality. Studies show that some people have appetite for criminal activities. Such individuals will steal if they have chances. Moral rearing among individual varies. Even if some parents concentrate to this important issue at home, others leave it to schools and religious institutions. Incorrect preference of friends can connect one to criminal persons. Some individuals are from high-quality homes, attend very good schools and have religious backgrounds but they have weak mentality and may simply influenced by others.

2.2.4. Management Causes of Fraud

According to Kanu & Okorafor, (2013, as cited in Olongo,2013) Management measures or inactions could create a suitable ground for fraud in banks. These include employment of workers without confirm from trustworthy source like schools attended, earlier employers etc,

Chalangat (2014) also states that the management may also place high emphasis on educational qualifications to the detriment of performance leading to certificate manipulations. Low payment of staffs also leads to fraud. Poor internal controls, use of untrained employees, over dependence on one employee due to capability lead to frauds.

2.3. Types of Fraud

The following are the foremost important and common sorts of fraud highlighted by Bank Administration Institute (1989) in fraud prevention and Detection series;

2.3.1. Unauthorized Withdrawals

As Olongo (2013) cited in his study that Unauthorized Withdrawal involves the withdrawal or transfer of money from individual's bank account without proper authorization or permission by the owner. Such frauds are the results of a person intentionally, or unintentionally, revealing their private information like personal identification numbers and password to criminals or other persons. Forgeries of customer's signature to withdraw illegally from individual's bank account or forgeries of other money from one account to another or withdrawal of money from one account to a different through the utilization of ATM (Automatic Teller Machine) according to Ebe (2006, as cited in Olongo,2013). The forgery could also targeted on "saving accounts, deposit accounts, current accounts and transfer instruments" (Olongo,2013,p.18).

2.3.2. Unauthorized Use of Credit or Debit Card

Unauthorized Use of Credit or Debit Card is a transaction involving the charging of expenses or purchase of products and services without the permission of the card owner. Such transactions may occur as a result of credit or debit cards that are lost, stolen, not received, issued on a fraudulent request, fake or other fraudulent situations (Olongo,2013).

2.3.3. Illegal Foreign Exchange Trading Scheme

Olongo (2013) explained that illegal Foreign exchange is buying or selling of foreign currency by person or institution who is not legal dealer. Buying or selling of foreign currency by a resident who is not certified dealer, with a person outside the country, or by a dweller who has not obtained the authorization of the regulator of Foreign Exchange.

2.3.4. Illegal Deposit Taking

Illegal Deposit Taking is an act of receiving, taking or accepting of moneys, precious metals, precious stones, etc. from members of the community that guarantees a repayment with interest or returns in money or money's value without a legal license from the concerned bodies under the Banking and Financial Institutions Act 1989 (BAFIA, as cited in Olongo,2013).

2.3.5. Fraudulent Money Transfer

Akinyomi, (2012, as cited in Chelangat,2014) in his study on the assessment of fraud in the Nigerian banking industry explain fraudulent money transfer as a fraudulent demand or change a legal Funds Transfer Request for the aim of perpetrating fraud. The fraudster will then conspire with Bank employees to withdraw the funds.

2.3.6. Theft and Embezzlement

Theft and embezzlement is another type of fraud which includes the unlawful collection of financial items like cash and cheque (Akinyomi,2012, as cited in Chelangat,2014).

2.4. Effects of Fraud on Financial Performance of commercial banks

The escalating of fraud in the banking industry in recent years creates severe threat to the stability and continued existence of financial sector and banks in particular (Usman & Shah, 2013, as cited in Olongo,2013). Akinyomi (2012) point out that fraud if not appropriately checked, could result in vast monetary losses to financial institutions and their customers, reduction of shareholders' money and banks' capital base as well as loss of public confidence in banks. Also, the occurrence of frauds and forgeries might, in extreme cases, lead to the closure of banks (Fatoki, 2015). Many of the troubled banks in Nigeria today had suffered a tremendous deal from frauds and insider credit exploitation (Nwaeze, 2008).

Nwankwo (2013, as cited in Chelangat,2014), in his study on the impact of fraud on Bank performance indicate that there is a significant positive relationship between cheque clearing fraud and performance of the Banks while Chiezey and Onu (2013, as cited in Chelangat,2014) revealed that fraud impose harsh trouble on banks and their customers. Chelangat further adds that fraud decreases the quantity of cash available for the growth of the economy.

2.5. Empirical Review

Gikiri (2012, as cited in Olongo,2013) did a study to on the influence of fraud risk management practices in commercial banks and their effect on fraud risk exposure. The objective of the study was to hunt out the effect of fraud risk management practices on fraud prevention and fraud detection in Commercial banks in Kenya. The researcher used descriptive research design and

the sample size was 30 commercial banks. The results of the study establish that loans fraud, cheque related fraud, account opening fraud, computer fraud and credit card fraud are the most common in Kenya banking industry.

Abdulrasheed and Yinusa (2012) did study on the effect of fraud on bank performance in Nigeria banking industry. The study used Vector Error Correction Model, dwell on the fraud triangle theory and quarterly data spanning from 2000 to 2013. The study found out that the number of staff involved in fraud has a significantly positive impact on the return on asset while the fraud perpetrated and the amount involved in fraud perpetration both have negative impact on bank performance.

Adeyemo (2012, as cited in Olongo,2013) carried out a research on the character, causes, effects and remedy for bank fraud in Nigeria. The study used data from the Nigerian Deposit Insurance Corporation (NDIC) annual fraud report. The study sampled ten banks with the maximum fraud cases. The study showed that the criminals must be fought on two broad fronts. First is to decrease the temptation to commit fraud and second is to extend the probabilities of detection.

Nwankwo (2013, as cited in Olongo,2013) did a research on the effect of fraud on Bank performance in Nigeria by adopting regression analysis found that there's is significant positive relationship between bank ATM Fraud, Forged Cheque, cheque clearing fraud and profitability of the Banks.

Chiezey & Onu (2013, as cited in Chelangat,2014) carried out a study on the impact of fraud and fraudulent practices on the performance of banks in Nigeria within the period 2001-2011. The study used evaluative research design and multiple regression analysis was used to analyze

the effects of fraud on bank performance. The study indicates that poor internal controls are the major causes of fraud and fraudulent activities.

Kanu & Okorafor (2013, as cited in Chelangat,2014) did a study on the nature, extent and Economic impact of Fraud on Bank Deposits in Nigeria. The objective of the research was to identify the quantity of Bank money involved in fraud. The data was collected from Quarterly Fraud and Forgeries report on Nigerian Banks for the period between 1993 and 2010. The study indicates that fraudulent withdrawals are the most common type of fraud in Nigerian Banking Industry.

Odhiambo (2013, as cited in Chelangat,2014) made research on the impact of financial fraud and liquidity on performance of commercial banks in Kenya. The objective of the study was to assess the consequence of monetary fraud and liquidity on the financial performance of commercial banks in Kenya. The study used descriptive research design and multiple regression analysis model was used to analyze the data. The study revealed that fraud loss and liquidity ratios had a strong and significant influence on financial performance of commercial banks in Kenya.

Adepoju and Alhassan (2010, as cited in Chelangat,2014) carried out a study on the challenges of ATM usage and fraud occurrences in Nigeria banking industry. 150 ATM users are used to collect data through questionnaire. The study acknowledged that customers have come to depend upon and trust ATM to their banking needs. The study also indicates that ATM fraud increase in Nigeria and across the world.

Khanna & Arora (2009, as cited in Chelangat,2014) did study to examine the causes of bank fraud in Indian Banking Industry. The objective of the study was to assess the causes that are accountable for bank frauds. The study sampled 253 employees of different banks through

cluster sampling. The study found out that lack of training, overburdened staff, competition, low compliance level (the degree to which procedures and prudential practices framed by federal Reserve bank of India to stop frauds are followed) are the major reasons for bank frauds.

2.6. Summary of Literature Review

This chapter has presented the foremost relevant secondary information identified by the researcher within the literature for the area of research. The fraud theories provide an understanding about the nature, characteristics and behavior of fraud and those who perpetrate fraud. A theoretical and contextual framework has been laid by identifying the economic foundations of fraud, causes, and types of banking fraud. The body of empirical evidence for fraud within the banking system has been examined, presenting specific information and evidence regarding areas like the effect of fraud on bank performance. From the literature presented above it is clear that most of the research and studies on fraud have been carried out in very few countries, notably, Kenya and Nigeria. In Ethiopia much literature was found on the adequacy of internal control and the role of management in fraud control and prevention. Unfortunately, not much literature was found in the area of the bank fraud and the financial performance of commercial banks. This is the gap in literature that this study is tried to fill by analyzing the effects of financial fraud on financial performance of commercial banks in Ethiopia. In chapter three, the researcher is discusses the research methodology.

2.7. Conceptual framework of the study

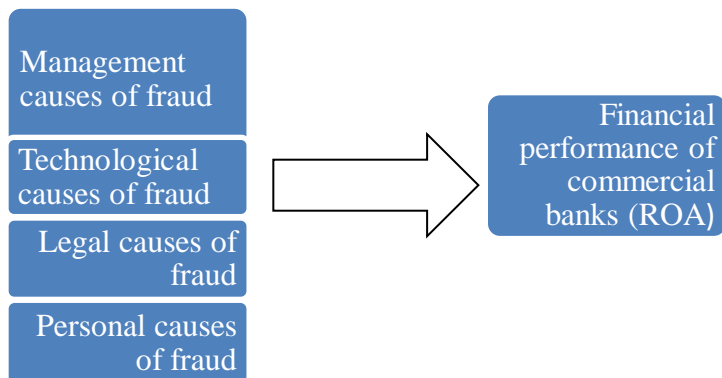
The researcher believes that when evaluating the effect of fraud on the performance of commercial banks the four causes of fraud must be considered as essential tools for the study. Thus, the researcher selects the financial performance of commercial banks ROA as a dependent

variable and the causes of bank fraud which are management causes of fraud, fraud due to personal causes, fraud due to technological causes, and fraud due to legal causes as independent variables. Based on the review of both theoretical and empirical studies on bank fraud and financial performance of commercial banks the following conceptual framework guiding this study was developed.

Figure2.1. Conceptual Framework

Independent variables

Dependent variable



Source: Developed by the researcher based on both theoretical and empirical Literature review

CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

This chapter provides an overview on the research methodology that was used in course of the research process. It discusses the research methods, research design, and identification of the population and the sample of the study. It also establishes the tool that was used in data collection and the method of data analysis

3.1. Research methods

Research methods are specific techniques/methods of data collection and analysis used to Achieve the broad research objective through addressing research questions and hypotheses testing. This study was employed the survey research which has defined by Bhattacharjee (2012) as, research method involving the use of standardized questionnaires or interviews to collect data about people and their preferences, thoughts, and behaviors in a systematic manner. The main focus of this study was quantitative, and all the appropriate data couldn't be collected by using questionnaires with the concerned bodies. Therefore, the data used in this study regression model was collected using structure documentary reviews of targeted banks audited annual report.

3.2. Research Design

The study used a descriptive research design. Descriptive research method helps in gathering information about existing status of the phenomena so as to explain what exists in reference to variables. This method is used because it addresses the target of the study in investigating the connection between variables of the study (Kothari, 2004). The design takes into consideration

aspects like the sample size in relation to the target population, the variables under the study, the approaches to the research, and the methods employed in data collection.

3.3. Target Population of the Study

A population is defined as a whole group of individual or objects having common observable characteristic. It is for the advantage of the population that researches are done. However, due to the large sizes of populations, researchers often cannot test every individual in the population because it is too expensive and time-consuming (Mugenda & Mugenda, 2003). The population of interest in this study was the commercial banks which are operate in Addis Ababa. There are 18 commercial banks which are operating in Ethiopia which have been registered by national bank of Ethiopia. Nine (9) banks were examined out of the 18 banks. The respondents are drawn from; Management, tellers, loan's department, accounts opening department and Customer Care.

Table 3. 1 Target Population

Department	No of staff targeted	No of banks	Total Population
Management	4	9	36
Tellers	6	9	54
Loans Department	4	9	36
Accounts Opening	4	9	36
Customer Care	4	9	36
TOTAL	22	9	198

3.4. Sample and Sampling Techniques

The sampling frame describes the list of all population units from which the sample is selected (Cooper & Schindler, 2008). It is a physical representation of the target population and comprises all members of a sample (Kothari, 2004). Accordingly this study was used two sampling stages. The first one is to sample out the commercial banks which were selected purposively by the researcher based on the number of annual fraud cases which are obtained from annual report of federal crime investigation bureau. The name of the selected banks were; Awash International Bank, Bank of Abyssinia, Buna Bank, Commercial Bank of Ethiopia, Dashen Bank, Nib International Bank, United Bank, Oromia International Bank and Wogagen Bank.

The selection of the respondents was done through a stratified random sampling technique. A stratified sampling technique is justified to be used during this study because it is on scientific rules of probability, ensures adequate representation of all classes of employees and reduces the probability of respondent bias within the study i.e. respondents predominantly selected from one class. The selection of 120 samples in the research was justified as the suggestion of Mugenda and Mugenda (2003) who revealed that a descriptive study should contain at least 30 percent of the total population. This sample enabled us to gather data across various departments within the selected banks.

Table3. 2 Sampling Frame

Department	Sample Frame	Sample Size	Proportion
Management	36	25	69%
Tellers	54	35	65%
Loans Department	36	20	56%
Accounts Opening	36	20	56%
Customer Care	36	20	56%
TOTAL	198	120	60.6%

3.5. Data Collection

Data collection refers to the means by which information is obtained from the chosen subjects of an investigation or a study. The study used both Primary and secondary data. Primary data was collected through self-administered questionnaire. The questionnaire was based on a likert scale and included closed ended questions. Closed ended questions assist in gathering feasible quantitative data (Mugenda & Mugenda, 2003, as cited in Chelangat,2014). Secondary data was collected from the annual report of national bank of Ethiopia and from the audited financial statements of selected commercial banks. Particularly, five year from 2015 to 2019 financial performance or Return on Assets (ROA) was collected from the financial statements of selected commercial banks.

3.6. Data Analysis

Data analysis of this study was through descriptive analysis techniques. Frequencies, percentages, mean and standard deviation was used to the present data. The tool of analysis was STATA software package. Return on Assets (ROA) ratio was used to measure the performance of commercial banks. Multiple Regression analysis model was used to establish the relationship between dependent and independent variables. Analysis of Variance (ANOVA) was calculated to establish the effect of independent variables on the dependent variable.

3.7. Data validity and reliability

Reliability is used to evaluate the questionnaire which is a sign of the variables or constructs. Questioner said to be reliable or reliable if answer a person to questions are consistent or stabilized over time. In conducting the reliability test using STATA version 14.2 for windows, The researcher calculated Cronbach's alpha values for the items in each construct. The coefficients were evaluated using the guidelines suggested by George and Mallery (2010), where values 0.9 or higher indicate excellent reliability, values starting from 0.8 to .89 indicate good reliability, values starting from 0.7 to .79 indicate acceptable reliability, values starting from 0.6 to .69 indicate questionable reliability, values starting from 0.5 to .59 indicate poor reliability, and values less than 0.5 indicate unacceptable reliability. As indicated below in Table 3.3 below the value for Cronbach's Alpha (α) was 0.771 for all items which exceed 0.70 the accepted value for Cronbach's Alpha George and Mallery (2010). In short nut, the responses generated for all of the variables utilized in this research was reliable enough for data analysis. This value was acceptable based on the rule of George and Mallery (2010). Validity was improved by asking bank workers to express their view on the words that are used in the questionnaire.

Table 3. 3 Reliability Statistics

Cronbach's Alpha	No of Items
.783	7

Source; Survey Results and STATA (2021) output

3.8. Analytical Model

This study was used regression analysis model in which the dependent variable is the ROA. The independent variables are personal causes of fraud, technological causes of fraud, management causes of fraud and legal causes of fraud. The multiple regression analysis was used to establish how each of the independent variable relates to the dependent variable (ROA). The regression analysis form is shown below

$Y = a + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + e \dots\dots\dots 1$ (This model is also used by Chelangat (2014) in his study on the impact of fraud on Financial performance of Deposit taking SACCOs in Kenya.)

Where by

Y= performance of commercial banks as expressed by ROA- ratio of after tax profits to total assets

X1= Fraud due to Management causes

X4=Fraud due to personal Causes

X2= Fraud due to Technological causes

a= the constant of regression

X3= Fraud due to Legal causes

e= the error term

The regression analysis was conducted at 95 % confidence level. t-test was used for the test of individual significance of independent variables, and F-test for joint significance of all variables, and R-squared for the explanatory power of the model.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

Introduction

This chapter talks about the results and analysis of the survey that was conducted. The main aim of the survey was to gather data about the nature and effects of fraud in the Ethiopian banking industry. The survey consisted of 11 quantitative questions. The questions were focused in four areas, including background of the respondent, types of fraud in Ethiopian commercial banks, causes of fraud in commercial banks, and fraud and financial performance of commercial banks. This survey questionnaire is attached in Appendix 2. This survey was distributed to a sample of 120 individual respondents from the selected commercial banks. The data was analyzed using STATA statistical package (STATA version 14.2). The data was analyzed and presented in forms of frequencies percentages, and tables charts. Data was collected from Management, tellers, loan's department, accounts opening department and Customer Care. This chapter also presents the main findings of the paper. Section 4.1 presents the demographic data. Sections 4.2, 4.3 and 4.4 present the four objectives of the study with the findings in light of the research questions and the conceptual framework. Finally Section 4.5 summarizes the results of the findings.

4.1. Response Rate

The study was targeted 120 respondents but due to different reasons only 105 respondents are properly filled and returned the questionnaires this makes the response rate of 88%. This response rate was excellent and representative and conforms to Mugenda and Mugenda (1999, as cited in Chelangat,2014) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

4.2. Respondent Profile

The respondent's profiles to this regard consist of gender, educational level (academic qualification), and working experience in a banking sector. The gender of the respondents was sought. Out of 105 samples Majority (78.10%) of the respondents were male while the remaining (21.9%) of the respondents were female as shown in table 4.1.

Table 4. 1 Gender Categories of the Respondents

Sex	Freq.	Percent
Male	82	78.10
Female	23	21.90
Total	105	100

Source: Questionnaires and STATA output (2021)

For the age distribution of respondents as shown below 22.9% of the respondents falls within the age bracket of 20-29yrs, 36.2% falls within 30-39yrs which is the higher age distribution of respondents. 31.4% falls within 40-49 yrs and the remaining 9.5% were above 50 years and above.

Table 4. 2 Age of the Respondents

Age	Freq.	Percent
20 – 29 yrs	24	22.86
30 – 39 yrs.	38	36.19
40 – 49yrs	33	31.43
50 years and above	10	9.52
Total	105	100

Source: Questionnaires and STATA output (2021)

In terms of educational background, the respondents indicated their highest level of education.

According to their response, 66.7% of the respondents obtained a bachelor degree as their highest educational level. The remaining 33.3% respondents obtained a post graduate degree or masters as shown in table 4.3.

Table 4. 3 Educational Background of the Respondents

Education	Freq.	Percent
Post graduate	35	33.33
Graduate	70	66.67
Total	105	100

Source: Questionnaires and STATA output (2021)

The study sought to find out about the work experience of the respondents. From the findings, of those with work experience between 1-5 years were 36.19%, those between 6-10 years were 44.76% and those with 11 years and above work experience were 19.05%. The findings were stipulated in the table4.4.

Table 4. 4 Work experience of respondents

Work experience of respondents	Freq.	Percent
1-5 years	38	36.19
6-10 years	47	44.76
11 years and above	20	19.05
Total	105	100

Source: Questionnaires and STATA output (2021)

4.3. Descriptive Statistics

The study sought to find out the types of frauds committed in the commercial banks. The results are stipulated Table 4.5.

Table 4.5 Types of frauds committed in the commercial banks

	Mean	Std.Deviation
Fraudulent Money transfer	3.267	1.601
Unauthorized withdrawals	3.305	1.264
Theft and Embezzlement	3.143	1.069
Unauthorized use of debit card (ATM)	2.981	1.323
Account opening fraud	2.438	1.372
Loan fraud	2.695	1.249

Source: Questionnaires and STATA output (2021)

To identify the types of fraud that occurs in Ethiopian commercial banks respondents were asked to rate over on common types of bank frauds. the result indicates that, majority of respondents agreed on the types of fraud that occur in commercial banks include unauthorized withdrawals which is the most frequent fraud in Ethiopia banking industry as indicated by a mean value of 3.305, followed by Fraudulent Money transfer which had the mean value of 3.267, theft and embezzlement which had a mean value of 3.143, Unauthorized use of debit card (ATM) as indicated by a mean value of 3.9552, Loan fraud had a mean value of 2.695, and Account opening fraud as shown by a mean value of 2.695.

This result is in line with Chelangat (2014) did a study on the effects of fraud on financial performance of Deposit taking Savings and Credit Cooperative Societies (SACCOs) in Kenya. The study identified types of fraud affecting the deposit taking SACCOs to include; use of stolen lost or counterfeit debit and credit card, Theft and Embezzlement, Fraudulent Money transfer, , Cheque fraud and identity fraud.

The second question sought to find out causes of fraud in the commercial banks. The results are stipulated in Table 4.6.

Table 4.6 Causes of fraud in the commercial banks

	Mean	Std.Deviation
Poor record Keeping	3.229	1.325
Lack of appropriate punishment to fraudsters	3.438	1.018
Poor internal Controls	3.81	1.249
Inadequate staffing	3.095	1.015

Poor salaries	3.171	1.139
Inadequate training and re-training	3.2	1.164
Greed	3.352	1.366
Personalities of staff	3.067	1.146

Source: Questionnaires and STATA output (2021)

To identify the causes of fraud in Ethiopian commercial banks respondents were requested to rate over on common causes of bank frauds. Based on the findings, Poor internal Controls is the main cause of fraud in commercial banks which had a mean value of 3.81, followed by Lack of appropriate punishment to fraudsters which had a mean value of 3.438, Greed which had a mean value of 3.352, poor record keeping which had a mean value of 3.229, inadequate training and retraining which had a mean value of 3.2, Poor salaries which had a mean value of 3.171, inadequate staffing as which had a mean value of 3.095 and personalities of staff as expressed by a mean score of 3.067. This is a little bit different with Idowu (2009) and Chelangat (2014). Their study found out that greed rather than poor internal controls is what makes people to commit fraud.

The study sought to find ought factors that affects fraud in the commercial banks. the results are shown below in table 4.7.

Table 4. 7 Factors that affect fraud in the commercial banks.

	Mean	Std.Deviation
Management Actions or Inactions	3.743	1.241
Technological advancement	3.657	1.073
Inefficient legal system	3.544	1.036
Personality Characters of individuals	3.257	1.092
Society expectations	2.933	1.112

Source: Questionnaires and STATA output (2021)

The study sought to determine factors that contribute to bank fraud in Ethiopian commercial banks. From the result, a majority of the respondents revealed that management actions or inactions are the main factor that leads to bank fraud which had a mean value of 3.743, followed by technological advancement as shown by a mean value of 3.657, problems related to the legal system or tedious legal processes of prosecuting fraudsters which had a mean value of 3.544, personality temperament or character of individuals as indicated by a mean value of 3.257, and finally society expectations which had a mean value of 2.933. This finding is consistent with Chelangat (2014), Kanu & Okorafor (2013) who identifies social expectation, technological improvement and management related factors of frauds.

The study also sought to establish the extent that main perpetrators of fraud in the commercial banks. The findings are as presented in table 4.8.

Table 4. 8 Perpetrators of fraud in the commercial banks

	Mean	Std.Deviation
Staff	3.629	.869
An external perpetrators (customer ,non customer)	4.105	.808
Collusion between internal(staff) and external (non staff)	4.267	.973

Source: Questionnaires and STATA output (2021)

Respondents were requested to indicate the main perpetrators of fraud in the commercial banks. The results in Table 4.8 indicate that, many frauds are perpetrated by Collusion between internal (staff) and external (non staff) perpetrators which had a mean value of 4.267, followed by An external perpetrators (customer ,non customer) which had a mean value of 4.105 and by bank employees or staffs which had a mean value of 3.629 respectively. This discovery is consistent with reports appearing in the federal crime investigation bureau (FCIB, 2018&19) revealing that many bank frauds are committed by Collusion between bank employees (staff) and external (non staff) perpetrators.

The study sought to determine the extent that different factors of fraud affect financial performance commercial banks. The findings are presented in table 4.9.

Table 4. 9 Factors of fraud that affect financial performance of commercial banks

	Mean	Std.Dev.
Technological advancement	3.676	1.355
Management Actions or Inactions	3.771	1.049
Tedious Legal Processes of prosecuting Fraudsters	3.286	.988
Personality Characters of individuals	3.171	1.078
Society expectations	2.841	1.274

Source: Questionnaires and STATA output (2021)

The study sought to find out the extent that various factors of fraud affect financial performance of the commercial banks. The findings illustrates that management actions or inactions are the main factors of fraud that affect the financial performance of commercial banks in Ethiopia which had the mean value of 3.771, followed by technological advancement which had a mean value of 3.676, tedious legal processes of prosecuting fraudsters as which had a mean value of 3.286, personality characters of individuals as indicated by a mean value of 3.171 and society expectations as which had a mean value of 2.841.

This is a little bit different with Chelangat (2014) in his study on the effects of fraud on financial performance of Deposit taking Savings and Credit Cooperative Societies (SACCOs) in Kenya the study identifies Tedious Legal Processes of prosecuting Fraudsters are the major factor that affect financial performance rather than management actions and in actions.

The study also sought to assess the type of damage caused by fraud in commercial banks. The results are shown in table 4.10.

Table 4. 10 Types of damage caused by fraud in commercial banks.

	Mean	Std.Deviation
Loss of money by the organization	3.543	1.301
Loss of money by the customer	3.438	.96
Reputational/Good will loss	4.057	.969
Customer exit	3.248	1.063

Source: Questionnaires and STATA output (2021)

The study sought to find out the type of damage caused by fraud to the commercial banks. Many respondents said that it caused Reputational/Good will loss to the banks which had a mean value of 4.057, followed by loss of money to the banks which had a mean value of 3.543. Further, the respondents indicated that the type of damage caused by fraud to the commercial banks to a moderate extent include Loss of money by the customer which had a mean value of 3.438 and Customer exit which had a mean score of 3.248.

Finally the study sought to estimate the overall monetary loss from the fraud incidence as a percentage of business turn-over (income).

Table 4. 11 Monetary loss from the fraud incidence

	Mean	Std.Dev.
Less than 1%	3.581	.959
1% - 5%	3.762	1.26
6% - 10%	2.648	.888
More than 10%	2.524	1.119

Source: Questionnaires and STATA output (2021)

This data represents the information regarding the loss to the organization. The respondents indicated that their bank losses 1% - 5% of annual income which had a mean value of 3.762, followed by less than 1% of annual income which had a mean value of 3.581. Further, the respondents indicated the monetary loss to a moderate extent include 6% - 10% of annual income which had a mean value of 3.648 and more than 10% of annual income as shown by a mean value of 2.524. This finding is similar with the annual report of Association of Certified Fraud Examiners (ACFE, 2019) which indicates that atypical organization loses 5 % of its revenue to fraud each year.

4.4. CLRM assumption and diagnostic test

In this subsection, four different results of CLRM tests of the study are presented. First, the test results for multicollinearity assumption are presented. Then, the test results of homoscedasticity and normality are presented separately. Finally, the results of autocorrelation tests are presented

4.4.1. Correlation Analysis

The next purpose of this study is to perform Pearson correlation between financial performance of commercial banks and explanatory variables i.e. personal causes of fraud, technological

causes of fraud, management causes of fraud and legal causes of fraud. The results of this test are presented in table 4.12.

Table 4.12 Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) ROA	1.000				
(2) Technological Causes	-0.026	1.000			
(3) Behavioral Causes	-0.132	-0.195	1.000		
(4) Management Causes	0.058	-0.131	-0.150	1.000	
(5) Legal Causes	-0.050	-0.205	-0.526	0.053	1.000

STATA output (2021)

The result presented in the table 4.12 outlined the correlation matrix among the variables. Correlation indicates the degree to which two or more variables are related to one another. The chief objective is measuring the strength or degree of linear relationship between two variables. The most common correlation statistics which is Pearson correlation was used in this paper. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship).

As depicted in table 4.12 above the correlation between the independent and dependent variables were not high. A minimum correlation of 0.026 is observed between fraud due to technological causes and ROA, while the maximum correlation of 0.195 is observed between fraud due to personal Causes and fraud due to technological causes. Generally, there's little evidence of multi-co linearity among the explanatory variables since the correlations among them aren't strong. Therefore, the variables can be incorporated into regression analysis.

4.4.2. Heteroskedasticity test

The second diagnostic test conducted in this study is heteroskedasticity test of ordinary least square (OLS) estimation. Theoretically, the variance of the errors should be homoskedastic or constant. If the errors do not have a constant variance or homoskedastic, they are said to be heteroskedastic. Thus, Ho of the assumption states that the errors do not have a constant variance. To achieve this, white test is the most popular test of homoskedasticity (Brooks, 2008). Thus, in this study white test is used to test of homoskedasticity.

Table 4. 13 Heteroskedasticity test

White's test for Ho:	Df	P
chi2(14) = 43.54		
Prob > chi2 = 0.2010		
43.540	14	0.2010
1.390	4	0.846
1.090	1	0.296
46.020	19	0.001

STATA output (2021)

The P-value should be bigger than 0.05 is not rejecting the null of homoskedasticity at 5% level. The results in Table 4.14 show that the P-value is .2010, thus there is no heteroskedasticity problem in the model.

4.4.3. Normality test

The third test conducted in this study is the normality assumption, which tests whether errors are normally distributed. Thus, Ho of the assumption states that the errors are normally distributed. A normal distribution is not skewed or the skewness is close to 0 and the coefficient of kurtosis

is close 3. This study used Bera-Jarque (BJ) test (which is the most common tests for normality) test for normality.

Table 4. 14 Normality test

Variables	Obs	Mean	Std.Dev	Min	Max	p1	p99	Skew.	Kurt.
Uhat	105	0	.467	-1.276	1.253	-1.276	1.098	.077	2.383

STATA output (2021)

The histogram in appendix # 3 is bell-shaped and from the table 4.14 the Bera-Jarque test the skewness is close to 0 (0. 077), and also it's has a kurtosis coefficient of 2.383. Thus, the residuals are normally distributed in this study, and concluded that there is no problem of normality on the model.

4.4.4Auto correlation

Durbin Watson test has been conducted to check the presence of auto correlation among variables. According to Durbin Watson significant table ranges from 0 to 4. A value close 2 shows non-auto collinearity. A value close 0 shows positive auto correlation; a value near 4 indicates negative auto correlation. So the table for assessment of auto correlation indicates a value of Durbin-Watson $d = 1.864$ which is between the two critical values of $1.5 < d < 2.5$. Therefore that indicates there is no auto correlation problem.

Table 4. 15. Autocorrelation test

Durbin- Watson	1.864
----------------	-------

STATA output (2021)

4.5. Regression Results

This study was carried out on fraud and its effect on the financial performance of Commercial banks in Ethiopia. The STATA software package was applied to analyze and calculate the multiple regression of study. Linear regression model was used to determine the relationship between dependent and independent variables.

Table 4. 16 Summary of results of the regression analysis

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interva]
Fraud due to Management Causes	-0.765	0.135	-5.68	0.020	-1.032	-0.498
Fraud due to Technological Causes	-0.495	0.121	-3.25	0.042	-0.631	-0.153
Fraud due to legal Causes	-0.415	0.123	-4.03	0.031	-0.738	-0.251
Fraud due to personal Causes	-0.392	0.100	-4.13	0.000	-0.614	-0.215
Constant	10.578	1.038	10.20	0.000	8.519	12.636
Mean dependent var	3.676		SD dependent var	1.355		
Adj R-squared	0.6196		Number of obs	105.000		
F-test	11.523		Prob > F	0.000		

Source: Questionnaires and STATA output (2021)

As clearly indicated in table 4.16 the adjusted R-square value for the model was 0.6196, this indicates the four independent variables that were studied, explain only 61.96% of the financial performance of commercial banks in Ethiopia. The remaining 38.04 percent of the variation in financial performance of commercial banks in Ethiopian are explained by other variables which are not included in the model.

From the ANOVA statistics in table 4.16, the processed data, the F statistics (11.523) which is used to measure the overall test of significance of the model was greater than the F critical (2.37) at 5% Level of significance. This shows that the overall model was significant and there is a significant relationship between dependent and independent variables.

From the above table 4.16, the researcher sought to determine the extent to which various causes of bank fraud affect financial performance of Ethiopian commercial banks. The following regression equation was obtained:-

$$FP = -0.765M - 0.495T - 0.415L - 0.392P + 10.578 \dots\dots\dots 2$$

Where FP is financial performance (ROA), M is fraud due to management causes, T is fraud due to technological causes, P is fraud due to Personal causes, and L is fraud due to legal causes. The result indicates, all independent variables were statistically significant because their P- value was less than 5% (0.05) at 95% confidence level. The four variables (fraud due to personal causes, fraud due to technological causes, fraud due to management causes and fraud due to legal causes) were negatively correlated with financial performance of commercial banks in Ethiopia. From the above regression model holding all the other factors constant, financial performance of commercial banks in Ethiopia was 10.578. The regression result clearly depicts that fraud related to management causes have the most effect to the financial performance of commercial banks in

Ethiopia followed by technological causes, and legal causes while fraud due to personal causes had the least effect. The following sections discussed about the regression results of all variables.

4.5. Discussion and Interpretation of Findings

4.5.1. Management causes of fraud vs. financial performance of commercial banks

The findings of the study demonstrate that management actions or inactions affect the financial performance of commercial banks in Ethiopia as shown by a mean value of 3.771. From regression result in table 4.16 also observed management causes have a negative coefficient that means that holding all the other factors constant, a unit increase in fraud due to management causes will lead to a 0.765 decrease in financial performance of commercial banks in Ethiopia. The impact of management causes of fraud on financial performance of commercial banks remains significance given a p-value lower than 0.05 (p-value = 0.020). This result suggests that Management actions or inactions like weak internal Control, low remuneration package and poor recruitment process create suitable environment for fraud in banks in Ethiopia and affect their annual income. Therefore we can conclude that there is significant relationship between management causes of fraud and the financial performance of commercial banks in Ethiopia. The study results are in agreement with findings of Chelangat (2014) which indicated that management actions and inactions have significant impact in the financial performance of banks in Kenya.

4.5.2. Technological causes of fraud vs. financial performance of commercial banks

The study revealed that technological advancement affects the financial performance of the commercial banks in Ethiopia as expressed by a mean value of 3.676. From regression result in table 4.16 also observed technological causes have a negative coefficient that means that holding

all the other factors constant, a unit increase in fraud due to technological causes will lead to a 0.495 decrease in financial performance of commercial banks in Ethiopia. The effect of technological causes of fraud on financial performance of commercial banks remains significance given a p-value lower than 0.05 (p-value = 0.042). The study reflects that continuous advancement in technology constitutes a serious factor in enhancing fraud in Ethiopian commercial banks. Technological frauds are not simple to detect or prevent. Frauds related to technology include ATM frauds, Electronic Funds Transfer, mobile and internet banking have significant impact on financial performance of commercial banks in Ethiopia. Therefore we can conclude that there is significant relationship between Technological causes of fraud and the financial performance of commercial banks in Ethiopia. This result is in line with Chelangat (2014) who indicated that technology related frauds have significant impact on the financial performance of banks in Kenya.

4.5.3. Legal causes of fraud vs. financial performance of commercial banks

The study indicated that tedious legal processes of prosecuting fraudsters affect financial performance of commercial banks as indicated by a mean value of 3.286.

From regression result in table 4.16 also observed legal causes have a negative coefficient that means that holding all the other factors constant, a unit increase in fraud due to legal causes will lead to a 0.415 decrease in financial performance of commercial banks in Ethiopia. The impact of legal causes of fraud on financial performance of commercial banks remains significance given a p-value lower than 0.05 (p-value = 0.0301). This suggests that poor legal system causes or encourages fraud in Ethiopian commercial banks and it affects their annual profits.

Fraud prosecution and investigation by its nature engages long investigation process before the offenders are brought to justice. When fraudsters are in jail they are released by the court for want of evidence. Simply put, legal causes of fraud have significant impact on financial performance of commercial banks in Ethiopia. This is consistent with the previous researches of Chelangat (2014) which indicated that bank fraud due to legal causes have significant impact on the financial performance of banks.

4.5.4. Personal causes of fraud vs. financial performance of commercial banks

The study illustrates that personality characters of individuals affect financial performance of commercial banks as shown by a mean value of 3.171. From regression result in table 4.16 also observed personal causes have a negative coefficient that means that holding all the other factors constant, a unit increase in fraud due to personal causes will lead to a 0.392 decrease in financial performance of commercial banks in Ethiopia. The impact of personal causes of fraud on financial performance of commercial banks remains significant given a p-value lower than 0.05 (p-value = 0.000). This suggests that Personal causes of fraud include individuals with maladaptive behavior or individuals whose main task is committing fraud or other crimes in order to satisfy their personal financial problem affect the financial performance of commercial banks. Therefore we can conclude that there is significant relationship between personal causes of fraud and the financial performance of commercial banks in Ethiopia. The study results are in agreement with findings of Kanu & Okorafor (2013) which indicated that personal and behavioral causes of fraud have impact on the financial performance of banks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

The chapter presents the summary of the result of the study and the main conclusion drawn from the analysis from the data. The following discussion, conclusion and recommendations were made from the data collected and analyzed.

5.1 Summary of Findings

The study objective was to establish the effect of fraud on the performance of commercial banks in Ethiopia. Primary data was collected from Management, tellers, loan's department, accounts opening department and Customer Care. Regression analysis was done to determine the effect of fraud on commercial banks. The findings of the study stipulate that fraud due to management causes, fraud due to technological causes, fraud due to legal causes and fraud due to personal causes affecting the financial performance of commercial banks in Ethiopia. The study revealed that unauthorized withdrawals, Fraudulent Money transfer as, theft and embezzlement, and unauthorized uses of debit card (ATM) are the most common fraud types which are committed in Ethiopian commercial banks.

The study found out that poor internal controls, Lack of appropriate punishment to fraudsters, greed, poor record keeping, and inadequate training and re-training are the main causes of fraud in Ethiopian commercial banks.

The study also indicated that the factors that affect fraud in the commercial banks includes management actions or inactions, technological advancement, tedious legal processes of prosecuting fraudsters, and society expectations. Further the study established that technological advancement; tedious legal processes of prosecuting fraudsters, management actions or inactions and personal causes are factors of fraud that affect financial performance of the commercial banks.

According to this study, beyond financial (monetary) losses, fraud has other negative consequences that impact an institution reputation, and customer loyalty. The study also indicate that, many frauds are perpetrated by Collusion between internal (staff) and external (non staff) perpetrators, followed by an external perpetrators (customer, non customer, and by bank employees or staffs.

The regression result indicates that fraud due to management causes, fraud due to technological causes, fraud due to legal causes and fraud due to personal causes explain 61.96% of the variation in the financial performance of commercial banks in Ethiopia as shown by adjusted R^2 (0.6196). The study concludes there is significant and negative relationship between financial performance (ROA) of commercial banks and factors that influence the financial performance.

5.2 Conclusion

From the review of related literature and data analysis, this study concludes by stating that fraud remains a serious threat to the expansion and development of the banking system. Urgent and appropriate actions must be taken both by the government, regulatory agencies and management of banks to make sure sanity within the system.

Based on findings of the study we can conclude that there is negative and a significant relationship between financial performance of commercial banks in Ethiopia and fraud due to technological causes, fraud due to personal causes, fraud due to management causes, and fraud due to legal causes.

Another conclusion made by the study is that poor internal controls, Lack of appropriate punishment to fraudsters, greed, poor record keeping, and inadequate training and re-training are the main causes of fraud in Ethiopian commercial banks.

The study also concludes that unauthorized withdrawals, Fraudulent Money transfer as, theft and embezzlement, and Unauthorized use of debit card (ATM) are the most common fraud types which are committed in Ethiopian commercial banks.

The study further concludes that many frauds in Ethiopian commercial banks are perpetrated by Collusion between internal (staff) and external (non staff) perpetrators and also fraud has great impact on the good will of commercial banks.

5.3. Recommendations

The following recommendations have been made in relation to bank fraud in commercial banks in Ethiopia. These recommendations are in congruence with the literature review and the findings of the study.

The study recommends that commercial banks should increase their employee requirements pertaining to qualifications; draw up more efficient screening techniques and ascertain that references are not fictitious at the recruitment stages. They should also make sure that there is segregation of duties, jobs satisfactions and strong internal controls.

Training employees is critical in the effort to prevent, detect and respond to financial exploitation. Clear, efficient training protocols enhance financial institutions' capacity to detect financial exploitation. It is essential that training programs describe what actions to take when employees detect problems. Training should communicate the roles and responsibilities of management, frontline staff, and other employees to reduce ambiguity and promote efficient and timely action when staff suspect or observe financial exploitation.

Most customers at financial institutions are not conscious of prevalent fraud. As long as they have an account at the bank and withdrawal cash from ATM they are not in any position to detect threat to their savings. Therefore, it's of great importance for the management of the financial institutions to provide frequent training to their customers. Customer awareness reduces potential fraud and encourages customers to report any suspicious transactions to the management as soon as they are detected.

The fraud investigators and judicial officers' capacity also need to be strengthened for purpose of managing fraud cases effectively. Improvement in the fraud investigation, judicial and legal handling of bank frauds can effectively and efficiently attained through strengthening fraud laws and regular training of judicial officers. Fraud laws need to be strengthened and the sentences to fraud perpetrator's enhanced to deter would be fraudsters from engaging in criminal acts.

The study also recommends the commercial banks management should take serious measurement on employees who are involve in committing fraud. This will help reduce internal fraud.

Furthermore, Commercial banks should reconcile their accounts regularly to reduce the opportunities frauds. And also commercial banks should apply good financial governance control measures through more regular meetings among the concerned bodies.

5.4. Suggestions for Further Research

The study sought to establish the effect of fraud on financial performance of commercial banks in Ethiopia. It only concentrated on commercial banks which are operate in Addis Ababa. However there are many financial institutions across the country which includes Micro Finance Institutions, Savings & Credit association and insurance companies. Therefore other studies should focus on the effect of fraud on the whole sector in financial institution.

Other research should also be conducted on the effects of fraud on financial performance of commercial banks in Ethiopia by including more variables that determine banks financial performance different from variables which are included to the current study.

REFERENCES

- Adepoju, A, & Alhassan,G. (2010). Challenges of automated teller machine (ATM) usage and fraud occurrence in Nigeria-A case study of selected banks in Minna Metropolis. *Journal of Internet Banking and Commerce (JIBC)*, 15(2), 2-10. Retrieved from www.researchgate.net
- Akindele R.I (2011), "Fraud as a negative catalyst in the Nigerian banking industry" *Journal of Emerging Trends in Economics and management Sciences (JETEMS)*. Retrieved from <https://www.google.com/url>
- Alemayehu Geda, (2006) "The structure and performance of Ethiopian`s Financial sector in the pre-and post-reform with special focus on Banking." *Journal of UNU World Institute for Development Economics research*, No.112 . Retrieved from www.wider.unu.edu
- Association of Certified Fraud Examiner (ACFE). (2010). Report to the Nation on occupational Fraud Retrieved July 26, 2014 from <https://acfe.com/documents/2010RttN.pdf>
- Akinyomi, O. J. (2012). Examination of fraud in the Nigerian banking sector and its prevention. *Asian Journal of Management Research*, 3(1), 182-194. Retrieved from www.researchgate.net
- Chelangat.B. (2014). The effect of fraud on financial performance of deposit taking savings and credit co-operative societies (Master thesis, university of Nairobi). Retrieved from <http://erepository.uonbi.ac.ke>
- Chiezey, U. & Onu, A. J. (2013). Impact of Fraud and Fraudulent Practices on the Performance

of Banks in Nigeria. *British Journal of Arts & Social Sciences*, 15(1). Retrieved from
www.eajournals.org

Cooper, D. R., & Schindler, P. S. (2003). *Business Research Methods* (8th Edition). USA:Mc
Graw-Hill. www.scirp.org

Commercial banks annual report from 2015-2019.

Donald R Cressey (1973), *Other People's Money, A Study in the Social Psychology of
Embezzlement* New York: Free Press 1953. <https://www.google.library.wisc.edu>

Federal crime investigation bureau.(2019). 2018 - 2019 annual report. Addis Ababa: Federal
crime investigation bureau.

Idolor, J. (2010). *Bank Frauds in Nigeria: Underlying causes, effects and possible remedies*;
Retrieved from www.researchgate.net

Idowu, A. (2009). *An Assessment of Fraud and its management in Nigeria Commercial Banks*.
European Journal of Social Science, 10(4).

Idowu Abiola (2009): *An assessment of fraud and its management in Nigeria commercial
banks*, *European Journal of social Sciences*, Volume 10, number 4 .

Kanu, S. I. & Okorafor, E.O.(2013). *The nature, extent and economic impact of fraud on bank
deposit in Nigerian*. *Interdisciplinary Journal of Contemporary Research in Business*,

4(9), 253-264.

Kimani, J. (2011). Fraud Risk Assessment Plan for Barclays Bank of Kenya. Tampere University of Applied Sciences.

Kothari, C.R. (2004). Research Methodology: Methods & Techniques (Second Revised Edition), Jaipur Rajasthan, India. New Age International (P) Limited.

Mugenda, O. M., & Mugenda, A. G.(2003). Research Methods. Quantitative and Qualitative approaches, Nairobi, Kenya. Acts Press.

National bank of Ethiopia. (2019). 2018 and 2019 annual report of National bank of Ethiopia.

Retrieved from <http://www.nbe.gov.et/info/reports/2018&2019-report.pdf>

National bank of Ethiopia.(2019). Bank business proclamation No.1159-2019. Retrieved from

<http://www.nbe.gov.et>

Nkwankwo O. (2013); Implications of fraud on Commercial Banks Performance in Nigeria.

International Journal of Business Management Vol. 8, 2013.

Nwankwo, G.O, (1991) Bank management” principles and practice Lagos Malthouse press Ltd, Lagos Nigeria.

Odhiambo (2013). Effects of Financial Fraud and Liquidity on the performance of Commercial Banks in Kenya. Unpublished MBA Project, University of Nairobi.

Okoye E.I. and Gbegi D.O (2013): An evaluation of fraud and related crimes on the Nigerian

Economy. *An Arabian Journal of Business Management Review*, Vol.2, 2013. Retrieved

from www.researchgate.net

Olongo.F.O. (2013). The effects of financial fraud and liquidity on financial performance of

commercial banks (Masters Thesis, university of Nairobi). <http://erepository.uonbi.ac.ke>

Wolfe D. T. and Hermanson D.R. (2004), the Fraud Diamond: Considering the Four Elements of

Fraud, the CPA Journal December 2004. Retrieved from digitalcommons.kennesaw.edu

APPENDICES

Appendix 1: List of Commercial Banks registered in National Bank of Ethiopia as January 2013

NO	Name of banks	Year of establishment
1.	Abay Bank S.C.	2010
2.	Anbesa bank	2006
3.	Addis International Bank	2011
4.	Awash International Bank	1994
5.	Bank of Abyssinia	1996
6.	Berhan International Bank	2010
7.	Bunna International Bank	2009
8.	Commercial Bank of Ethiopia	1963
9.	Cooperative Bank of Oromia	2005
10.	Dashen Bank	2003
11.	Dehub Global Bank	2012
12.	Enat Bank 2013	2013
13.	Lion International Bank	2006
14.	Nib International Bank	1999
15.	Oromia International Bank	2008
16.	United Bank	1998
17.	Wegagaen Bank	1997
18.	Zemen Bank	2009

Source: National Bank of Ethiopia (<http://www.nbe.gov.et>)

APPENDICES II QUESTIONNAIRE

My name is Tewodros Yalew, a postgraduate student at Addis Ababa University pursuing a Master of Arts degree in Accounting and Finance. I am carrying out a research study on the topic; The Effects of fraud on the performance of commercial banks in Ethiopia. I humbly make a request for you to help me in answering the following questions. This Questionnaire is to collect data for purely academic purposes. The information you give will be treated with utmost confidentiality. Do not put any name or identification on this questionnaire.

SECTION A: BACKGROUND INFORMATION

Kindly answer the following questions by ticking (✓ or ×) against your preferred choice (s).

1. Indicate your gender:

a) Male

b) Female

2. Age 20 – 29 yrs. 30 – 39 yrs. 40 – 49 yrs 50 years and above

3. Indicate your highest academic /professional qualification

a) Graduate

b) Post graduate

4. How many years have you worked in the bank?

a) Below 5 years b) 5-10 years c) Above 10 years

SECTION B: CAUSES OF BANK FRAUD

5. What are your views on the following statements regarding the types of fraud in the Commercial banks? (Circle the number closest to your view)

Use a scale of 1 to 5 where 5= highly frequent, 4=frequent, 3=less frequent, 2=rarely frequent, 1= not frequent

No	Types of fraud	5	4	3	2	1
1.	Unauthorized withdrawals					
2.	Fraudulent Money transfer					
3.	Unauthorized use of debit card (ATM)					
4.	Theft and Embezzlement					
5.	Falsifying loan documents					
6.	Account opening fraud					
7.	Any other? Please specify -----					

6. What are your views on the following causes of fraud in Commercial banks? (Circle the number closest to your view)

Use a scale of 1 to 5 where 5 =highly agree, 4=agree, 3=indifferent, 2=disagree a, 1= high disagree

No	Causes of fraud	5	4	3	2	1
1.	Greed					
2.	Poor Record keeping					
3.	Poor internal Controls					
4.	Inadequate staffing					
5.	Inadequate training and re-training					
6.	Poor salaries					
7.	Lack of appropriate punishment to fraudsters					
8.	Disgruntled staff					
9.	Any other? Please specify					

7. **To what extent do the following factors contribute to fraud in your Commercial banks?** Use a scale of 1-5 where 5=very great extent; 4=Great extent; 3=Moderate extent; 2=Low extent and 1=Very low extent. (Circle the number closest to your view)

No	Factors contribute to fraud	5	4	3	2	1
1.	Management Actions or Inactions					
2.	Technological advancement					
3.	Tedious Legal Processes of prosecuting Fraudsters					
4.	Disgruntled staff					
5.	Society expectations (peer pressure)					

8. **What are your views on the following statements regarding the main perpetrator(s) of the fraud?** Use a scale of 1-5 where 5=very great extent; 4=Great extent; 3=Moderate extent; 2=Low extent and 1=Very low extent. (Circle the number closest to your view)

No	Perpetrator(s) of the fraud	5	4	3	2	1
1.	Staff					
2.	An external perpetrator (Customer, Non-Customer)					
3.	Collusion between internal(staff) and external (non staff) perpetrators					
4.	Other (specify)					

SECTION C: FRAUD AND FINANCIAL PERFORMANCE

9. **To what extent do the following factors of fraud affect financial performance of your Bank?** Use a scale of 1-5 where 5=very great extent; 4=Great extent; 3=Moderate extent; 2=Low extent and 1=Very low extent. (Circle the number closest to your view)

No	Factors contribute to fraud	5	4	3	2	1
1.	Management Actions or Inactions					
2.	Technological advancement					
3.	Tedious Legal Processes of prosecuting Fraudsters					
4.	Personality Characters of individuals					

5.	Society expectations					
----	----------------------	--	--	--	--	--

10. What are your views on the following statements regarding the type of damaged caused by bank fraud? Use a scale of 1-5 where 5=very great extent; 4=Great extent; 3=Moderate extent; 2=Low extent and 1=Very low extent. (Circle the number closest to your view)

No	Damages caused by bank fraud	5	4	3	2	1
1.	Loss of money by the organization					
2.	Loss of money by the customer					
3.	Reputational/Goodwill loss					
4.	Customers exit					
5.	Any other (specify)					

11. If possible, could you estimate the overall monetary loss from the fraud incidence as a percentage of business turn-over (income?)

- a) Less than 1% b) 1% - 5% c) 6% - 10% d) 11% - 15%
- e) Over 10%

APPENDIX III: DESCRIPTIVE STATISTICS

Table 1 Descriptive Statistics on the Types of frauds committed in the commercial banks

Variable	Obs	Mean	Std.Dev.	Min	Max
Fraudulent Money transfer	105	3.267	1.601	1	5
Unauthorized withdrawals	105	3.305	1.264	1	5
Theft and Embezzlement	105	3.143	1.069	1	5
Unauthorized use of debit card (ATM)	105	2.981	1.323	1	5
Account opening fraud	105	2.438	1.372	1	5
Loan fraud	105	2.695	1.249	1	5

Table 2 Descriptive Statistics on Causes of fraud in the commercial banks

Variable	Obs	Mean	Std.Dev.	Min	Max
Poor record Keeping	105	3.229	1.325	1	5
Lack of appropriate punishment to fraudsters	105	3.438	1.018	1	5
Poor internal Controls	105	3.81	1.249	1	5
Inadequate staffing	105	3.095	1.015	1	5
Poor salaries	105	3.171	1.139	1	5
Inadequate training and re-training	105	3.2	1.164	1	5
Greed	105	3.352	1.366	1	5
Personalities of staff	105	3.067	1.146	1	5

Table 3 Descriptive Statistics on Factors that affect fraud in the commercial banks.

Variable	Obs	Mean	Std.Dev.	Min	Max
Management Actions or Inactions	105	3.743	1.241	1	5
Technological advancement	105	3.657	1.073	1	5
Inefficient legal system	103	3.544	1.036	2	5
Personality Characters of individuals	105	3.257	1.092	1	5
Society expectations	105	2.933	1.112	1	5

Table 4 Descriptive Statistics on Perpetrators of fraud in the commercial banks

Variable	Obs	Mean	Std.Dev.	Min	Max
Staff	105	3.629	.869	2	5
An external perpetrators (customer ,non customer)	105	4.105	.808	2	5
Collusion between internal(staff) and external (non staff)	105	4.267	.973	1	5

Table 5 Descriptive Statistics on Factors of fraud that affect financial performance of commercial banks

Variable	Obs	Mean	Std.Dev.	Min	Max
Technological advancement	105	3.676	1.355	1	5
Management Actions or Inactions	105	3.771	1.049	2	5
Tedious Legal Processes of prosecuting Fraudsters	105	3.286	.988	1	5
Personality Characters of individuals	105	3.171	1.078	1	5

Society expectations	105	2.841	1.274	1	5
----------------------	-----	-------	-------	---	---

Table 6 Descriptive Statistics on Types of damage caused by fraud in commercial banks.

Variable	Obs	Mean	Std.Dev.	Min	Max
Loss of money by the organization	105	3.543	1.301	1	5
Loss of money by the customer	105	3.438	.96	1	5
Reputational/Good will loss	105	4.057	.969	2	5
Customer exit	105	3.248	1.063	1	5

Table 7 Descriptive Statistics on Monetary loss from the fraud incidence

Variable	Obs	Mean	Std.Dev.	Min	Max
Less than 1%	105	3.581	.959	1	5
1% - 5%	105	3.762	1.26	1	5
6% - 10%	105	2.648	.888	1	5
More than 10%	105	2.524	1.119	1	4

Appendices IV Normality test

