ST.MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT OF CREDIT RISK MANAGEMENT IN THE CASE OF COMMERCIAL BANK OF ETHIOPIA

BY

BETELHEM TEKA

SGS /0146/2010A

DECEMBER, 2019

ADDIS ABABA ETHIOPIA

ASSESSMENT OF CREDIT RISK MANAGEMENT IN THE CASE OF COMMERCIAL BANK OF ETHIOPIA

A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY COLLEGE, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE MASTER IN BUSINESS ADMINISTRATION (MBA)

BY

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December, 2019

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APPROVED BY BOARD OF EXAMINERS

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STATEMENT OF DECLARATION

I hereby declare that assessment of credit risk management in commercial bank of Ethiopia research is wholly the work of Betelhem Teka.I have carried out the present study independently with the guidance and support of the research advisor, Asmamaw Getie (Ass.Prof).In addition, any other contributors or sources either have referenced in the prescribed manner or has listed in the acknowledgements together with the nature and the scope of their contribution. Moreover, the study had not submitted for award of any Degree or Diploma Program in this or any other Institution. It is in partial fulfillment to the requirement of the program Master's Degree in General Management.

Betelhem Teka

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Date ____________________

ENDORSEMENT

This thesis has been submitted to St. Mary's University, school of graduate studies for examination with my approval as university adviser.

Asmamaw Getie (Ass.Prof). -----------------------

Adviser Signature

St. Mary's University, Addis Ababa, December, 2019

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Acronyms and Abbreviations

CBE= Commercial Bank of Ethiopia

NBE= National Bank of Ethiopia

CRM= Credit Risk Management

SPSS= Statistical Package for Social Sciences

KYC= know Your Customer

NPL= Non Performing Loan

MIS= Management Information System

LRM= Loan Review Mechanism

BOD= Board of Director

EL= Expected Loss

EAD= Exposure at Default

LGD= Loss Given Default

SET= Security Financing Transaction

OBS= Off Balance Sheet

GAAP= Generally Accepted Accounting Principle

VAR= Value at Risk

MTM=Mark to Market

DM= Default Mode

RCR=Rural Commercial Banks

SME=Small and Medium Enterprises

CSMI=Credit Scoring Methods for Individual

Abstract

The research objective was to assess the impact of credit risk management practices on Commercial Bank of Ethiopia. The study was a descriptive research design. The target populations for the study were employees working at head office and 4 districts in Addis Ababa. This study used stratified sampling Techniques were applied to select a sample size of 365 employees from both managerial and non-managerial positions. 365 employees (97.33%) response rate was obtained. Primary data was mainly collected using self- administered questionnaires consisting of both open and closed ended questions with 4 point Likert Scale. Data were also collected through documents overview and interview. The collected data were quantitatively analyzed using SPSS to produce descriptive statistics. The key findings from the study revealed that: the bank has well organized credit policy that counter to credit risk they are exposed to and it also conclude that the bank has good credit granting practice and uses suitable credit risk assessment tools and techniques including loan administration, risk identification, measuring, evaluating, monitoring and controlling mechanism. However, the study also concluded that the bank has drawbacks such as absence of training for clients which results to loan diversion and the priority sectors of the bank in terms of credit facility are highly exposed to credit risk which directly contribute to the increment of NPL. Thus, it is recommended that Commercial Bank of Ethiopia should progress independent risk management policy and procedure from credit policy and procedure to avoid those problems and to take measure on the business.

Key words*: Credit Risk Management*

Commercial bank of Ethiopia

Non preforming loan

CHAPTER ONE

1. Introduction

1.1 Background of the study

Loan credit is of at most important to a country. It is impossible to think of the present day economy without the use of loan. Loan is an indispensable lubricant and a tool of convenience for the economic progress of a country. The banking sector is considered as device to economic development. The main mission of the banking sector is financial intermediation whereby it mobilizes savings and extends credit to businesses opportunities. Thus credit recruitment is one of the core business segments of the banking sector. Credit risk management in a financial institute starts with the formation of advancing principles. As a result banking sector's influence on economic growth comes from it function of activating savings and allocates credit (Fredric, 2006).

The National Bank of Ethiopia report that, NBE (2011), credit is the main source of income for banks that gain from interest, salaries to employees and dividends of stakeholders. Additionally almost all credit needs involve an intrinsic credit risk which needs to be proper management. So that banks will not be exposed to extreme level of risk. Furthermore practices in the world advocate that the vital risk in the bank has been credit risk. Certainly, failure to collect loans granted to customers and the presence of delay in refund has been the major factor, behind the failure of many banks in the world (Duffie and singleton 2003).

An assessment of (Stein 2010) of risks can also indicate the basic policy in banks. Through the application of the credit risks, the institution can create a decision. These all can help the fruitful achievement through having quality asset and gain profitable attraction from the effective management of the credit product. Consequently, credit risk management needs to be a well-built process that enables the banks to proactively manage the loan portfolios to minimize the losses and earn an acceptable level of return to its shareholders. In addition to this, the importance of the credit risk management is acknowledged by banks for it can create the standards of process, separation of duties and responsibilities such as in policies and procedures recognized by the Board of directors and the management of the bank Strischek (2002). Since exposure to credit risk continues to be the critical problems in banks worldwide, banks and their managers should be able to learn useful lessons from previous experiences. And have awareness of the need to identify measure, monitor and control credit risk in addition to determine that they hold adequate capital against these risks and that they are sufficiently compensated for risks earned.

Every organization's success, particularly of commercial enterprise, depends on the amount of financial resources they invest. Commercial Banks, being categorized under profit making organizations, also depend on their financial resources. Banks play an important role in the life of the society and development of country by reinvesting the money they deposit in their loan activities. The mere existence of money in the bank doesn't guarantee the effective growth of its service. Loans are the bloodlines of banks. Proper mobilization and use of this key input is indispensable. Among the many operations a bank has its loan management activities have significant role for the economic development of any country Laeven (2014).

Therefore, having well established credit management mechanism helps to effectively manage the probability of the occurrence of credit risk. This study aims to assess credit risk management in commercial bank branches in Addis Ababa with particular reference found in commercial bank of Ethiopia.

Definition of term

Credit risk management: It is an activity of bank that includes all management function such as identification, measurement, monitoring and control of the credit risk exposure, Muro et al., (2013).

1.1Statement of the Problem

Financial institutions are very imperative in any economy. Their role is similar to that of blood arteries in the human body, because Financial institutions are pump financial resources for economic growth from the stocks to where they are required (Brooks, 2014). Commercial banks are financial institutions and are key providers of financial information to the economy. They play even a most critical role to developing economies where borrowers have no access to capital markets. There is an indication that well-functioning Commercial banks accelerate economic growth, while poorly functioning financial institutions hinder economic progress and intensify poverty (Muye and Muye, 2017).

Credit risk in banking is commonly defined as the probability of a borrower defaulting loan commitments. The present possibility for banks to diversify to broader range of services and products make life really cool for banking entrepreneurs and managers. But this diversification advantage is a once a life time opportunity that should be consumed with some caution and prudence as this involves a great deal of risk. This is in direct line with the saying that the higher you go, the colder life becomes. Among these risks, experiences suggest that the key risks in banks have been credit risk. In the study made by Xiuzhu (2007) showed that financial institutions have faced difficulties over the years for a multitude of reasons. The major cause of these serious banking problems continues to be directly related to negligent credit standards for borrowers and counterparties, poor portfolio risk management, or lack of attention to changes in economic or market situation which leads to a deterioration in the credit standing of a bank's borrowers.

Moreover, the recent global financial crisis and the subsequent recession in many developed countries have increased households' and firms' defaults, causing significant losses for banks. This calls for regular monitoring of the banking activity regarding the management of credit granting activity and loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress to ensure a sound financial system and prevent crises. Even though the causes for the financial crisis have been suggested, with varying weight assigned by experts, most of the expert emphasize that the main causes of the crisis was the result of high risk arise due to lax of control by the regulatory body of central banks (Bradrania, 2017) .In Ethiopia's, the banking system has witnessed a significant expansion over the past few years.

National Bank of Ethiopia believes such growth should be matched to strong risk management practices and the regulatory bank also noted that the growing of the economy and its interaction with the global market place has exposed the sector to increasingly complex and interviewed credit risk (NBE, 2011).

An attempt to assess the credit risk management practice of commercial banks in Ethiopia have been made by, Girma (2011) and Tibebu (2011). However, they mostly focus on evaluating the transaction risk which refers to the risk within individual loan by using the following dimensions: collateral requirement, long term customer relationship, credit rationing, and screening and monitoring perspective. The above dimensions employed by the researchers helps to minimize risk at individual level.

However, Hann (2010), articulated that while he considering the bank crises the main cause of bank failure were poor monitoring and implementation of standards and guideline. Besides, as per the national bank of Ethiopia the activity of Board of directors, managers, and the policy makers on credit monitoring and management activity of the business organizations and credit analysis and credit handling process are the factors that contribute much towards safety and soundness of the banking systems and used to measure the risk management practice of banks.

In case, this study aims to indicate the gap in credit risk management process this is done through assessing the bank's credit risk management practice by using the above national bank of Ethiopia requirements through gathering primary data from commercial bank of Ethiopia.

1.3 Research Questions

Given several issues relating to the assessment of credit risk management in commercial bank of Ethiopia, a number of research questions can be raised as follows:

1. What is the operation of a credit granting process in commercial bank of Ethiopia?
2. What is the level of credit administration, measurement and monitoring process in commercial bank of Ethiopia?
3. What is the current challenges of credit risk control performance of commercial bank?
4. What are credit risk management techniques and tools used by the bank?

1.4. Objective of the Study

The study has the following general and specific objectives

4.1.1 The general objective of the study

To assess the credit risk management practice of commercial bank of Ethiopia.

1.4.2 The specific objectives

1. To distinguish the operation of a credit granting process in commercial bank of Ethiopia.
2. To assess the appropriateness of credit administration, measurement and monitoring process of commercial bank of Ethiopia.
3. To identify challenges that hinder the performance of the bank on credit risk management in commercial bank of Ethiopia.
4. To assess the credit risk management technics and tools used by the Ethiopian Commercial Bank Ethiopia

1.5 Significance of the study

The aim of this paper is to assess the credit risk management practice of commercial bank of Ethiopia. This study is help banks to get awareness on what it takes to progress their loan qualities and credit risk management in commercial bank of Ethiopia. Through evaluated the presentation of credit risk management practice in commercial banks and it could be used as an input or documentation for credit risk management procedure formulation for Commercial bank of Ethiopia.

Furthermore; the study is vital because it provides evidence to understand and know the credit risk management practice of financial institution especially in the banking sector. It could also help commercial Banks to give insight on various component of credit risk Management practice. The result of the study also important to create awareness to various stakeholders of the industry about the application of the principles of credit risk management practice in the commercial banks which enable to make effective and informed decisions and measure in order to improve the asset quality and helps to safeguard the stakeholder interest of commercial banks.

Moreover the study helps enhancing of the practical knowledge of the researcher through creating a link between the theoretical knowledge of credit risk administration and actual implementation in this area in the banking industry. Furthermore, the study could help as a spring point to further study in the subject matter.

1.6 Scope of the Study (Delimitation)

Since the term risk is a broad area of study, the paper focuses on only assessing credit risk management practices in commercial bank of Ethiopia and ignoring other area of Bank risks such as operational, interest rate, liquidity risks and the like. Even though, credit risk management is a concern of all Banks operating in the country, the paper is limited to cover only in commercial bank of Ethiopia credit risk management practice especially in head office of Addis Ababa, on top of this, due to time and cost constraints, the study focused only on respondents exist at commercial bank of Ethiopia.

1.7. Limitation of the study

Due to the confidentiality policy of banks, access to customer and banks information, except officially disclosed financial information may not be allowed, for this reason the study was not be involved documents of customer to evaluate credit risk management practice of the banks. Moreover the study had been limited to selected commercial bank of Ethiopia. Branches due to time constraint it was difficult to assess the credit risk management practice of all banks in the city.

1.8. Organization of the study

The research had been organized as follow, Chapter one contain introduction, background of the study, statement of the problem ,objective of the study, scope of the study, significance of the study. Chapter two covers review of related literatures. In chapter three contain methodology and research design. In chapter four the research possess about analyzing and interpretation of data whereas, the fifth chapter demonstrates about summary, conclusion and recommendation.

CHAPTER TWO

2. Literature Review

Introduction

The purpose of this chapter is to describe and document what has been written and recorded in different manuals, literatures and authors about Bank Credit Management and Practices. For this particular study, the researcher has documented the views, concepts and definitions forwarded from selected manuals and authors on "**Credit Risk Management and Practice**". In short it summarizes the theoretical and conceptual framework for this study.

2.1 Theoretical framework

2.1.1 Credit risk

According to Basel (2000), he was stated that Credit risk is simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

2.1.2 Transaction Verses Portfolio Credit risk

In a way of expressing transaction with the portfolio credit risk management. Under credit risk are also transaction and portfolio risks. Transaction risk refers to the risk within individual loans, it can be mitigate through implementing the following main activities like screening techniques, monitoring, and collection. Whereas portfolio risk refers to the risk inherent in the composition of the overall loan portfolio which can be minimized or mitigated though developing and reviewing policies and strategy helps to minimize credit risk and through diversification of loan products, maximum loan size, types of loans, and loan structures The management of credit risk of credit portfolios is therefore one the most important tasks for the financial liquidity and stability of banking sector in connection with increased sensitivity of banks to the credit risks and changes in the development of prices of financial instruments. The most significant impact on performance of the enterprise has just financial risk. The unsystematic risks have a higher impact on performance of the enterprise as systematic risks (Kiseľáková et al., 2015).

2.1.3 Credit Policies

According to (NBE, 2011) reported that the foundation for effective credit risk management is the identification of existing and potential risks in the bank's credit products and credit activities. This creates the need for development and implementation of clearly defined policies, formally established in writing, which set out the credit risk philosophy of the bank and the parameters under which credit risk is to be controlled. Measuring the risks attached to each credit activity permits a platform against which the bank can make critical decisions about the nature and scope of the credit activity it is willing to undertake.

2.1.4 Credit Risk Management

(Muro et al., 2013) It has been found out that in order to minimize loan losses and so as the credit risks, it is essential for Commercial banks to have an effective CRM system in place because it needs experiences elsewhere in the world suggest that the key risk in a bank has been credit risk. Indeed, failure to collect loans granted to customers has been the major factor behind the collapse of many banks around the world. Banks need to manage credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Additionally, banks should be aware that credit risk does not exist in isolation from other risks, but is closely intertwined with those risks.

Effective credit risk management is the process of managing an institution's activities which create credit risk exposures, in a manner that significantly reduces the likelihood that such activities will impact negatively on a bank's earnings and capital. Credit risk is not confined to a bank's loan portfolio, but can also exist in its other assets and activities. Likewise, such risk can exist in both a bank's on-balance sheet and its off-balance sheet accounts.

Addae (2014) bemoaned that many of the agonies and frustrations of slow and distressed credits can be avoided by good loan supervision. As the loan is given out, continuous supervision

reduces credit risk, through effective monitoring and thereby improves bank loan growth. However, if his credit scores come in lower than expected, the credit officer can suggest ways to improve them, which could potentially reduce lending costs. Credit risk is the most critical risk and hence must be well managed, since it could greatly affect the performance of the bank.
Gibson (2014) re-counted that one of the principal functions of an organization should be focused on risk management. Risk management involves identification, measurement, aggregation, planning and management as well as monitoring of the risk. Procedures for measuring a firm's overall exposure to credit risk as well as stringent internal rating system should be adequate so Loan is a major asset, income source for banks, and risky area of the industry. Moreover, its contribution to the growth of any country is very clear. Bank credit is the primary source of debt financing available for most customers in the personal, business or corporate market. The underlying need for credit varies across these markets. Banks generally also want to increase the base of their income and use credit extension as a chance to cross sell other fee generating services when a customer requires for credit facilities.

According to Gibson (2014), any successful business should meet its customer needs and make a profit. Likewise, successful financial institutions must meet the desperate needs of depositors and borrowers. Depositors look for high rates, short terms and no risk, while borrowers seek low rates and long terms. Financial institutions are therefore, in the risk intermediation business. To be successful, financial institutions, banks in particular, must properly underwrite risk, manage and monitor the risk assumed.

The risk profile of banks is fundamentally different from that of other financial institutions, like stockbrokers and insurance industry. An integral part of banking is the management of credit risk and it is done through well-diversified portfolios of exposure (Rose, 2002). Credit risk management primarily focuses on loss avoidance and the optimization of return on risk. Financial institutions in the world are facing two major challenges.

Firstly, they need to deliver increasing returns and value to shareholders and secondly, they need to determine how to capitalize on the New Capital Accord's Basel II minimal capital requirements and Harris (2015) claims that the credit instruction manual espouses credit limits, establishment of credit period, as well as credit rating of customers. The principal objective of a credit policy guideline is to circumvent extending credit to clients who are unwilling or incapable to pay back the loan received. This blueprint will assist Credit Managers or Loan Administrators to do proper credit appraisal on the borrowers as well as Credit risk is not confined to a bank's loan portfolio, but can also exist in its other assets and activities. Likewise, such risk can exist in both a bank's on-balance sheet and it's off balance sheet accounts. The credit risks are associated with the core services of the bank that are lending and borrowing.

These risks are the probability of borrower's failure to meet his or her obligations. Number of reasons can result in the default of the borrower and that can be very serious risks on the profitability of the bank (Basel, 2009).

As over all, credit risk is related to the traditional bank lending activities, while it also comes from holding bonds and other securities. Basel (2017) reports that for most banks, loans are the largest and most obvious source of credit risk; however, throughout the activities of a bank, which include in the banking book as well as in the trading book, and both on and off the balance sheet, there are also other sources of credit risk. Various financial instruments including acceptances, interbank transactions, financial futures, guarantees, etc. increase banks' credit risk.

Therefore, it is indispensable to identify all the credit exposures the possible sources of credit risk for most banks, which can also serve as a starting point for the following parts of this work. These losses can be determined by calculating the loan assets of the bank according to their potential ratings for repayment of loans.

2.1.5 Principles for the Management of Credit Risk

credits in a different time different and basic way examined if and if not the exact approach chosen by individual supervisors will depend on a host of factors, including their on-site and off-site supervisory techniques and the degree to which external auditors are also used in the supervisory function, all members of the Basel Committee agree that the principles set out here under should be used in evaluating a bank's credit risk management system. Supervisory expectations for the credit risk management approach used by individual banks should be commensurate with the scope and sophistication of the bank's activities. As per the committee the sound practices of bank credit risk management should cover the following four areas (Basel, 2000).

2.1.5.1. Establishing an Appropriate Credit Risk Environment

To establish an appropriate credit risk environment mainly depends on a clear identification of credit risk and the development of a comprehensive credit risk strategy as well as policies. To banks, the identification of existing and potential credit risk inherent in the products they offer and the activities they engage in is a basis for an effective credit risk management, which requires a careful understanding of both the credit risk characteristics and their credit granting activities, especially the complicated or newly developed ones. (Fonseca et al., 2010).

Besides, the design of objective credit risk strategies and policies that guide all credit granting activities and establishment of an appropriate credit risk environment is also the foundation in bank credit risk management process. The departmental head should be fully involved in credit risk assessment as a periodic modest practice in managing credit risk (Dlugosch et al., 2018) It is stated that a credit risk strategy should clarify the types of credit the bank is willing to grant and its target markets as well as the required characteristics of its credit portfolio.

While credit policies express the bank's credit risk management philosophy as well as the parameters within which credit risk is to be controlled, covering topics such as portfolio mix, price terms, rules on asset classification, etc. both the strategies and policies should be designed and implemented well in conducting credit granting activities, and they help to establish a helpful credit environment. Moreover, establishing an appropriate credit environment also indicates the establishment of a good credit culture inside the bank, which is the implicit understanding among personnel about the lending environment and behavior that are acceptable to the bank.

As per the Basel committee Banking Supervision NBE (2010) NBE guideline the following are activities which shall be performed by BOD in order to establish an appropriate credit risk environment. The board of directors should have responsibility for approving and periodically reviewing the credit risk strategy and significant credit risk policies of the bank. The strategy should reflect the bank's tolerance for risk and the level of profitability the bank expects to achieve for incurring various credit risks.

Moreover, the committee argue that senior management should have responsibility for implementing the credit risk strategy approved by the board of directors and for developing policies and procedures for identifying, measuring, monitoring and controlling credit risk. Such policies and procedures should address credit risk in all of the bank's activities and at both the individual credit and portfolio levels.

Besides, banks should identify and manage credit risk inherent in all products and activities. And they should ensure that the risks of products and activities new to them are subject to adequate risk management procedures and controls before being introduced or undertaken, and approved in advance by the board of directors or its appropriate committee.

2.1.5.2. Operating under a Sound Credit Granting Process

A sound credit granting process requires the establishment of well-defined credit granting criteria as well as credit exposure limits in order to assess the creditworthiness of the obligors and to screen out the best ones. A bank's credit criteria are should be designed to shape the types and characteristics of its preferred obligors, and they should set out who are eligible for the credit, the amount of the credit and the relative terms and conditions.

During granting of loans, the officer should establish his or her credibility as a professional, knowledgeable, well-informed and friendly businessperson. As asserted by Kirschenmann (2016), the credit officer is expected to ask valid questions and gather information about the borrower, as well as his or her banking history. Through this, the officer can develop initial observations about client's behavior and right from there evaluation starts. It's also noted that these criteria, together with the credit exposure limits on single and groups of counterparties that usually base on internal credit rating, should help banks to generate sufficient information on credit risk profiles and instruct the safe credit approval process, which are applicable to credit extension activities as well.

Moreover, the committee specifically address the following areas in order to operate under a sound credit granting processes which have to be implemented by the management of the banks. It also helps to implement the following activity to operate under a sound credit granting process like, operate within sound, well defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment.

According to NBE(2011) the banks should establish overall credit limits at the level of individual borrowers and counterparties, and groups of connected counterparties that aggregate in a comparable and meaningful manner different types of exposures, both in the banking and trading book and on and off the balance sheet, banks should have a clearly established process in place for approving new credits as well as the amendment, renewal and refinancing of existing credits, and all extensions of credit must be made on an arm's-length basis. In particular, credits to related companies and individuals must be authorized on an exception basis, monitored with particular care and other appropriate steps taken to control or mitigate the risks of non-arm's length lending.

2.1.5.3. Operating under 5 C's

According to Thomas (2002) the expert analyzes five key factors, subjectively weights them, and reaches a credit decision:

1. **Character**: A measure of the reputation of the firm, its willingness to repay, and its repayment history e.g. age factor.
2. **Capital**: The equity contribution of owners and its ratio to debt (leverage). These are viewed as good predictors of bankruptcy probability. High leverage suggests a greater probability of bankruptcy.
3. **Capacity**: The ability to repay, which reflects the volatility of the borrower's earnings.
4. **Collateral**: In the event of default, a banker has claims on the collateral pledged by the borrower. The greater the priority of this claim and the greater the market value of the underlying collateral, the lower the exposure risk of the loan.
5. **Cycle (or Economic) Conditions**: The state of the business cycle; an important element in determining credit risk exposure, especially for cycle dependent industries.

2.1.6. Credit scoring System

According to Hussein & John (2011) Credit scoring has been regarded as a core appraisal tool in which the idea of reducing the probability of a customer defaulting, which predicts customer risk, is a new role for credit scoring, which can support and help maximize the expected profit from that customer for financial institutions, especially banks. One of the most important things, to classify a bank's customers, as a part of the credit evaluation process to reduce the current and the expected risk of a customer being bad credit, is credit scoring. Hand &Jacka, (1998, p. 106)

Credit scoring is purely judgmental approach in which credit analyst decision is based on five Cs (i.e. character, capacity, capital, collateral and condition). Thomas (2002) According to Thomas, (2000). Credit scoring is a credit risk management technique that analyzes the borrower's risk. In its early meaning, "credit scores" were assigned to each customer to indicate its risk level. The more highly discriminative the scoring system, the better are the customers ranked from high to low risk. Commonly focuses on the values of the 5 Cs of a customer (i.e., Character, Capital, Collateral, Capacity and Condition.) Credit scoring is the set of decision models and their underlying techniques that aid lenders in the granting of consumer credit. These techniques assess, and therefore help to decide, who will get credit, how much credit they should get, and what operational strategies will enhance the profitability of the borrowers to the lenders .

The judgmental techniques rely on the knowledge and both past and present experience of credit analysts, who evaluate the required requisites, such as the personal reputation of a client, the ability to repay credit, guarantees and client's character. (Abdou, El-Masry&Pointon, 2007). Credit scoring is mechanical system for analysis of the loan applicant and used to increase the correctness in the approval of loans to creditworthy customers, which can result in increased profits or rejection of those customers who are not creditworthy. The main reasons for the use of credit scoring are to reduce bad debts and to improve operational efficiency (Janeska, Sotiroski, &Taleska, 2014).

The main aspect generally used in credit scoring models include the borrowers'' personal characteristics such as income, age, gender, education, occupation, region, time at present address, residential status, marital status, and followed by the borrower'' banking relationship such as collateral value, loan duration, time with bank, number of loans, and current account (Marian G. &Fotini G., 2010, p.15).According to Janeska, Sotiroski, &Taleska,(2014). Different customer scoring stage are listed as follows:

Marketing score: a marketing activity aims to reduce the cost of customer acquisition and to minimize customer inconvenience and dissatisfaction.

Application score: Application scoring systems summarize all applicant information into one overall score measuring the creditworthiness of loan applicants in order to predict the probability of repayment problem. Fraud score: simply by observing and counting the number of days in payment arrears, to claim as fraudulent or a credit application as containing fraudulent information. Performance score: The goal of performance scoring is to monitor the existing portfolio, its future performance and losses.

Behavioral score: Behavioral scoring analyzes the risk of existing customers based on their recently observed behavior once credit has been granted, banks can subsequently start to monitor the repayment and financial behavior of their customers. It allows lenders to make better decisions in managing existing clients by forecasting their future performance Thomas (2002).

Early warning score: Early warning systems aim to early detect potential crises with counterparts. These counterparts are put on a watch list for closer inspection and follow up.

Collection score: Collection scoring is a decision support tool to manage bad debt.

One rank orders customers already in payment arrears based on the probability of successfully collecting the outstanding debt.

Profit score: Developing customer level profit scoring models is typically very complex because of several practical implementation issues. Direct and indirect benefits and costs need to be considered and also the timing of the cash flows and the corresponding discount factors need to be taken into account. Credit lenders wish to change from minimizing the risk of a consumer defaulting to maximizing the profit a consumer brings them Thomas (2002).

2.1.7. Tools of Credit Risk Management

Thirupathi& M. Manojkumar (2013), the tools through which credit risk management is carried out are:

Exposure Ceilings: Prudential Limit is linked to Capital Funds - say 15% for individual borrower entity, 40% for a group with additional 10% for infrastructure projects undertaken by the group, Threshold limit is fixed at a level lower than Prudential Exposure; Substantial

Exposure, which is the sum total of the exposures beyond threshold limit should not exceed 600% to 800% of the Capital Funds of the bank (i.e. six to eight times).

Review/Renewal: Multi-tier Credit Approving Authority, constitution wise delegation of powers, Higher delegated powers for better-rated customers; discriminatory time schedule for review/renewal, Hurdle rates and Bench marks for fresh exposures and periodicity for renewal based on risk rating, etc are formulated.

Risk Rating Model: Set up comprehensive risk scoring system on a six to nine point

Scale. Clearly define rating thresholds and review the ratings periodical preferably at half yearly intervals. Rating migration is to be mapped to estimate the expected loss

Risk based scientific pricing: Link loan pricing to expected loss. High-risk category borrowers are to be priced high. Build historical data on default losses. Allocate capital to absorb the unexpected loss.

Portfolio Management: The need for credit portfolio management emanates from the necessity to optimize the benefits associated with diversification and to reduce the potential adverse impact of concentration of exposures to a particular borrower, sector or industry. Stipulate quantitative ceiling on aggregate exposure on specific rating categories, distribution of borrowers in various industry, business group and conduct rapid portfolio reviews.

Loan Review Mechanism: This should be done independent of credit operations. It is also referred as Credit Audit covering review of sanction process, compliance status, and review of risk rating, pickup of warning signals and recommendation of corrective action with the objective of improving credit quality. It should target all loans above certain cut-off limit ensuring that at least 30% to 40% of the portfolio is subjected to LRM in a year so as to ensure that all major credit risks embedded in the balance sheet have been tracked.

2.1.8. Credit Administration, Measurement and Monitoring Process

Credit administration, as emphasized by Basel (2000), can play a vital role in the success of a bank, since it is influential in building and maintaining a safe credit environment and usually saves the institution from lending sins. Therefore, banks should never neglect the effectiveness of their credit administration operations. Then talking about credit risk measurement in banks, it is required that banks should adopt effective methodologies for assessing the credit risk inherent both in the exposures to individual borrowers and credit portfolios, and this will be explained in details later.

Banks should keep track on the borrowers' current financial conditions and ensure their compliance with the covenants. Both cash flows and collateral adequacy should be ensured and the potential problem credits should be considered. In this way, banks are well in control of their credit qualities as well as all the related situations, and can react to any future changes timely and readily.

Besides in order to maintain an appropriate credit administration, measurement and monitoring process Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios, Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves, Banks are encouraged to develop and utilize an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities, Banks must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on- and off-balance sheet activities.

The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk, banks must have in place a system for monitoring the overall composition and quality of the credit portfolio and banks should take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios, and should assess their credit risk exposures under stressful conditions.

2.1.9. Ensuring Adequate Controls over Credit Risk

The banking business is likely to face difficulties when there is a slight deterioration in the quality of loans. Poor loan quality has its roots in the information processing mechanism. Laeven (2014) observed that these problems are at their acute stage in developing countries. The problem often begins right at the loan application stage and increases further at the loan approval, monitoring and controlling stages, especially when CRM guidelines in terms of Control over credit risk as the means for guaranteeing adequate controls over credit risk in banks lay in the establishment of different kinds of credit reviews. Regular credit reviews can verify the accordance between granted credits and the credit policies, and an independent judgment can be provided on the asset qualities.

Besides, banks must establish a system of independent, ongoing assessment of the bank's credit risk management processes and the results of such reviews should be communicated directly to the board of directors and senior management, banks must ensure that the credit ranting function is being properly managed and that credit exposures are within levels consistent with prudential standards and internal limits.

According to Laeven (2014) Banks should establish and enforce internal controls and other practices to ensure that exceptions to policies, procedures and limits are reported in a timely manner to the appropriate level of management for action, banks must have a system in place for early remedial action on deteriorating credits and should manage problem credits and similar workout situations identify, measure, monitor and control credit risk as part of an overall approach to risk management. Moreover, the supervisors should conduct an independent evaluation of a bank's strategies, policies, procedures and practices related to the granting of credit and the ongoing management of the portfolio and they should consider setting prudential limits to restrict bank exposures to single borrowers or groups of connected counterparties.

2.2 **Empirical Review on Credit risk Management in Banks**

Different researchers were conducted on this area of studies in different financial institutes. The credit risk management practice has been explored by a number of researchers such as Weberet al. (2010) On making this review these studies, it is found that majority of the studies that focus on credit risk management practices in banks provide conceptual framework. Their studies have focus on credit risk management practice in banks are also made a size-wise and sector-wise comparison of the credit risk management among banks in India at various countries. In his research B.s Bodal et al,(2009) also made an attempt to assess the credit risk management practice of commercial banks in India by using Basel Accords and RBI guidelines. And also an attempt is also made to examine the size and ownership effect on the credit risk management practices in banks. The survey has, thus, brought out that irrespective of sector and size of bank, Credit Risk Management framework in India is on the right track and it is fully based on the RBI's guidelines issued in this regard.

Besides, in his study XiuzhuZhoo (2007) examined the credit risk management of major British Banks ;the researcher used the principles of credit risk management as a dimension in order to evaluate the credit risk management practice of the major banks found in British which establishing an appropriate credit risk environment; operating under a sound credit granting process; maintaining an appropriate credit administration, measurement and monitoring process; and ensuring adequate controls over credit risk the findings were the British banks follow the Basel guidelines better, and have adopted multiple choices and means for assessing, granting and mitigating credit risk. Comparatively than smaller size banks, it seems that smaller size banks put more focus on the credit granting phase, and actually may have stricter limits for the credit risk they can accept due to the low risk tolerance.

Also Muninarayanappa and Nirmala (2004) outlined the concept of credit risk management in banks. They highlighted the objectives and factors that determine the direction of bank's policies on credit risk management. The challenges related to internal and external factors in credit risk management are also highlighted. They concluded that success of credit risk management require maintenance of proper credit risk environment, credit strategy and policies. Thus the ultimate aim should be to protect and improve the loan quality.

In Ethiopia as per the researcher best knowledge only two research were made in the subject area on Credit risk Management and Profitability in commercial Banks (TibebuTefera, 2011) have made on seven commercial banks in Ethiopia the paper used primary data in order to evaluate the credit risk management practice of banks. The study used Screening and monitoring, Credit Rationing, Collateral requirements, Long-term Customer Relationship, as a variable his finding were Credit risk management of commercial banks of Ethiopia is poor, because both higher in the management position are maximum of BA and diploma qualification as the researcher as it can be seen clearly the researcher not examined the credit risk management practice in the above mentioned variables.

Yang Wang, (2013) find out that the key principles in credit risk management are establishment of a clear structure, allocation of responsibility and accountability, processes have to be prioritized and disciplined, responsibilities should be clearly communicated and accountability assigned on his research title Credit Risk Management in Rural Commercial Banks in China.

Girma (2011) point out on his study credit risk management and its impact on performance in Ethiopian commercial banks that the default ratio of any bank in Ethiopia depends on credit risk management quality of the institution.

Solomon (2013) studied credit risk management practice of Nib International Bank of Ethiopia and in his assessment the researcher come across that factors lead to wrong decision making and increase NPL level of the bank are concentration of credit in few sector and borrower, collateral as number one technique of credit risk management, absence of credit risk model of credit portfolio, lesser attention for MIS and advisory service to customers and absence of proper follow up.

Tesfaye (2014) study factors influencing the level of credit risk in the Ethiopian commercial banks. The study find out that quantity of risk and quality of risk management related variables has got much influence on the credit risk level of banks. Nevertheless, risk direction related measures, which are mostly external focus, have limited influence on crediAt risk. More specifically the variation in the effect of stock and flow measures entails banks to further enhance mostly two of Basel principles: operating under a sound credit granting process and maintaining an appropriate credit, administration, measurement and monitoring process.

Atkilti (2015) in his study find out that Credit risk, liquidity risk and operational risk are the three important types of risks the banks mostly facing. The three widely used Risk identification method were identified and ranked as Financial Statement Analysis firstly and followed by audit and physical inspection and then internal communication. The study further confirmed that four aspects of Basel's Credit risk management principles explain a significant level of variation on Credit risk management practice of Ethiopian commercial banks. Furthermore, Establishing an appropriate Credit risk environment and Ensuring adequate Controls over credit risk were found to be the most influential variables on level of Credit risk management practice. It is finally observed insignificant difference between public and private commercial banks in all aspect of Credit risk management principles and practice.
Tibebu (2011) examined that credit risk management and profitability of commercial banks in Ethiopia. Find out that both nonperforming loan ratio and capital adequacy ratio has a negative impact on profitability‘s of commercial banks in Ethiopia.

CHAPTER THREE

3. Research Design and Methodology

The purpose of this chapter is to describe the research methodologies. Research design that show the blue print of methodology that could be concerned to population and sampling techniques, types of data and instruments of data collections including procedures of data collection and methods of data analysis techniques that had been used as listed below.

3.1. Research Design

As Robson asserted the object of descriptive research is to portray an accurate profile of persons, events or situations (Saunders et al. 2009). Similarly, this study is used descriptive research. This method has been selected because it is appropriate when the aim of the study will be to get an exact description of current status. Besides this, they stated that descriptive research method is a fact finding study with adequate and accurate interpretation of the findings. It describes with emphases what actually exists such as current conditions, practices, situations or any phenomena. Particularly, descriptive survey method is the one which has commonly used in educational research. Moreover quantitative approach is used to express the primary data that has been gathered from commercial bank of Ethiopia.

3.2 Population and Sampling Techniques

The target population for this research is National Bank of Ethiopia management and staff members. The researcher took preliminary survey data about the staff who involve directly in credit management operation. Accordingly, active participants in the credit risk management operation among staff considering those who have high involvement in decision that correlate with loan and its concern. Therefore, the researcher has been used data from both primary and secondary sources.

The primary data is collected by distributing structured questioner to credit administration and appraisal department, consumer loan, risk management and loan recovery department working at head office are 360. These persons are expected by the researcher to have credit risk management practices in the company and capable of giving ideas about financial practices of the bank applied in the company. Therefore, considering the above issues and due to budget, time constraints, In order to make the findings more accurate and In order to select relevant respondent stratified random sampling has used and secondary data from annual reports (in order to know the progress of NPL), credit policy and procedures, central bank directive and other relevant document is used to analyze the extent of implementation.

3.3. Sample size

Population accounts 24% of the target population while the combined four districts account 76% of the target population. Selection of the sample population was also based on this proportion. Therefore, in order to determine the sample size of the population, the study used

Yamane's (1967) formula with 97.33% confidence and 5% acceptable sampling error. Based on the following formula 375 employees were taken as a sample.

$$n = \frac{N}{1 + N(e)^2}$$

Where, n= is the required sample size

N=is the population size

e= the acceptable sampling error (Yamane Taro, 1967).

Therefore, proportionality 80 employees from head office and 295 employees from 32 branches (almost 9 employees from each branch) were selected as a sample and questionnaire was distributed accordingly. Questionnaires were randomly distributed in all selected braches while the employees were leaving for lunch and collected after they finished their work before leaving their home.

3.4. Types of Data and Instruments of Data Collections

The researcher had been employed mainly primary data which was collected by means of questionnaire. It was collected relevant data from the respondents in a way of evaluating the employee's perception on credit risk management practice of their organization. Besides to these the secondary data had been used in order to know the number of employees working in credit areas in each bank on employees' record of the bank.

The questionnaires consists of, the demographic variable followed by four credit risk management dimensions, the first dimension was in, operating under a sound credit granting process, the second dimension variable would maintaining an appropriate credit administration measurement monitoring process, the third was evaluating credit risk management techniques and the last dimension was the challenges that hinder the performance of risk management.

3.5. Procedures of Data Collection

The questionnaire had been tested and necessary correction was made to avoid ambiguity and confusion before conducting the final data collection. This had been followed by the preparation of the final draft of the questionnaire. Then, the questionnaire was administered with the help of vice principals and unit leaders of the commercial banks following the provision the necessary orientation by the researcher. The questionnaires had been collected after a week from commercial bank of Ethiopia.

3.6. Methods of Data Analysis

In accordance with the data that had been collected from different sources, the clos ended questionnaire was systematically coded, tabulated and organized for Descriptive statistics method. The organized and coded data had been stored in an editable excel spreadsheet was imported to SPSS and analyzed using descriptive and inferential statistics. In addition, the data that had been gathered through open ended question, interview and document observation, was categorized mathematically. The items were classified into different tables according to similarities of issues and raised in the questionnaire after the classification, each of the issue had been analyzed and interpreted. Depending on the nature of the basic questions and data gathered, the data was analyzed using different statistical tools. Accordingly, the respondents report and the nature of the basic questions had used the statistical techniques such as frequency and percentage distribution had been used to analyze various characteristics of the sample population such as sex, age, academic qualification, field specialization and experience.

3.7. Reliability and Validity of the Research

The data was tested for its reliability using Cronbach's alpha. The data have relatively high internal consistency (Cronbach's Alpha=0.827). The questionnaires were taken from various journal articles and for its validity the researcher conducted a pilot test on two of CBE's branch by distributing 30 questionnaires. Based on the pilot test, improvements were made by consulting my advisor and then after all it was found to be valid and reliable.

Table 1: Reliability Statistics

No	Variables	Cronbach'sAlpha	No of item
1	**Level of credit risk**	.706	7
2	**Challenges in effective implementation of credit risk mgmt. policy**	.723	8
3	**Factor of credit granting process**	.827	5
4	**Credit risk scoring**	.708	8
5	**Technique for credit risk mgmt.**	.801	3
Total	**Grand**	.753	34

3.8 Ethical considerations

An official letter on ethical clearance for the proposal of the research had been obtained from St. Marry university similarly the respondents were informed the purpose of the study that it contributes necessary information for policy makers and other concerned bodies. And also inform that all information obtains from them had been kept confidential and is meant only for the purpose of the study.

CHAPTER FOUR

4. Data Analysis, Finding and Discussion

4.1 Data Analysis

This chapter presents analyzed results and interpreted discussions of the data obtained from the primary source as well as secondary sources. The primary data was obtained from the questioners which are designed to collect the necessary data to answer the research questions. The questionnaires were administered for one hundred and ten respondents from all sections of credit and risk management department of Commercial Bank of Ethiopia both at head office and district level. Secondary data was obtained from annual reports in order to show the progress of NPL of loan dispersed to different economic sector and credit policy and procedures in order to know the extent of implementation. Hence all data collected from primary data as well as secondary data was analyzed as follow.

4.2 Background of respondents

Three hundred seventy-five questionnaires was distributed to the respondent and out of three hundred seventy-five 360 were and collected 15 of them were not collected with a response rate of 96%. The research study is reliable since the respondents were selected based on their duty and responsibility and their past experience on credit management, credit analyst expert, credit administrator, loan recovery department and risk management expert those directly attached to credit activities and their answer were expected to be reliable. Moreover, the research analysis takes into consideration not only finding from the primary data but also secondary data have also been gathered and interpreted. Secondary data which were officially published sources and which cannot be manipulated by the researcher as well as by respondent i.e. annual reports, credit policy and procedure. The demographic characteristic includes job title, level of education, field of specialization and work experience. Table 3 to table 7 below shows details of background information of respondent. Due to consideration is given to obtain consent from each participant about their participation in the study. It was conducted on voluntary bases the researcher tries to respect the participant right and privacy. The finding of the research was presented without any variation from the outcome of the research. In addition the research full acknowledgment to all reference material used in the study.

Table 2: frequency distribution of respondent by level of education

Educational level	**Frequency**	**Percent**
Master degree	**154**	**42.8**
Degree	**206**	**57.2**

Source: survey and SPSS frequency out put

Concerning to the respondent educational levels as indicated on above table-2 154(42.8 %) of the respondents are post graduate degree holder and the rest 206(57.2 %) of respondents are undergraduate degree holder. the paper tries to distinguishes the participants by their educational qualifications in order to know the qualification of the respondent to analyze weather their response are relevant. From this it is possible to understand that the composition of the respondents include well qualified to explain about the subject matter of the study.

Table 3: frequency distribution respondent by Work experience

Work experience	frequency	Percent
0-5 years	105	29.2
6-10 years	95	26.4
11-20 years	136	37.7
More than 20 years	24	6.6
Total	360	100

Source: survey and SPSS frequency output 2019

As specified on the above table-3 majority of the respondent 136 (37.7%) have been working for CBE from 11-20 years and 95(26.4%) of them have been working for the organization from 6-10 years. In general, the result indicate that the workers serve the bank for long period of time and this contribute to both the reliability and validity of the information they offer.

Table 4: frequency distribution respondent by field of specialization

Field of specialization	Frequency	Percentage
Accounting and finance	149	41.5
Management	113	31.1
CPA	3	.9
Economics	95	26.4

Source: survey and SPSS frequency output 2019

As indicated on the above table -4 from the total respondent 149 (41.5%) of them was managerial, 113(31.1 %) professional and the rest 95(26.4%) are experts. Such a segregation of the respondent is important to suppose the research choose the right professionals which have direct relationship with the subject matter and in order to gather the necessary information regarding credit and risk management of the organization.

4.4. Credit risk assessment survey Results

4.4.1. Level of Credit Risk

Table 5: Level of credit risk on loan category by economic sector.

Economic Sectors	No Risk		Low Risk		High Risk		Very High Risk	
	freq	% age	frequency	% age	frequency	% age	Frequency	% age
Agricultural loan	-	-	24	6.6	183	50.9	153	42.5
Manufacturing loan	-	-	200	55.7	146	40.6	14	3.8
Import and export loan	-	-	103	28.3	230	64.2	27	7.5
Domestic trade and service loan	4	0.9	244	67.9	108	30.2	4	0.9
Building and construction loan	10	2.8	221	61.3	115	32.1	14	3.8
Personal and mortgage loan	81	23.6	258	71.7	18	4.7	-	-

Source: survey and SPSS frequency output 2019

As the above table 5 indicated responses given to questions show that, level of credit risk being faced by the bank on loan category by economic sector. The researcher asks this in order to know the type loan on which the bank is highly exposed to credit risk. The result shows that 336 (93.4%), 257(71.7%) in agricultural loan and Import and export loan respectively that is the highest and second highest level of credit risk as replied by respondents. Currently, the bank provide loan to three priority sectors (i.e. agricultural, manufacturing and export sector) which directly attached to the economic development of the country.

As the bank is owned by government the bank, it expected to give due attention to the agricultural development sector of the country. According to the findings of Wang (2013), agricultural producers businesses are largely depends on weather and the uncertainty of natural factors, the sector is under risk on this area. Whereas the export businesses area also seriously affected by overseas market due to fluctuation in foreign exchange rate. However, the researcher only point out the mitigation mechanism of credit risk emanated from fluctuation of exchange rate.

According to Solomon (2013) on the study about credit risk management practice of NIB the research tries to indicate that manufacturing loan have the highest percentage share from overall credit portfolio of the bank and this leads to high level of credit concentration risk on single economic sector but the research does not tells us the risk level of loan dispersed to each sectors on credit portfolio. However, this research tries to see the levels of risk faced by each sectors in the credit portfolio of CBE and their contribution to NPL.

According to the result shown in the above table 5 the two priority sectors are highly exposed to credit risk according to respondent. This indicates the bank is highly vulnerable to agricultural loan risk and Import and export loan risk. According to C.Baker (1998) as indicated on literature review part Credit risk occur when one of the counter parties to a transaction does not clear up in full either when the fund are outstanding or on some later date and it may result in bankruptcy of counterparty.

Therefore, the risk exposure of the above two sectors are high and bank excepted to give due attention and follow up and when loan dispersed to all sectors exceptionally for this two sectors and should prepare efficient credit risk mitigation mechanisms.

4.4. Credit risk management practice

Table 6: principles of credit risk management used

Statement	Used		Not used	
Position	Fre	percentage	fre	Percentage
Establishing an appropriate credit risk environment	316	87.5	44	12.3
Operating under a sound credit granting process	329	91.5	31	8.5
Maintaining an appropriate credit administration, measurement and monitoring process	329	91.5	31	8.5
Ensuring adequate controls over credit risk	306	84.9	54	15.1
The role of supervisors	285	79.2	75	20.8

Source: survey and SPSS frequency output 2019

The achievement and existence of commercial banks are greatly contingent on effective Credit risk management system and exercise (Atakelt&Veni, 2015).According to Basel (2000) as stated on literature review part financial institution are challenging several problems due to lack of adequate credit risk management principles, proper implementation credit standards of borrower and counterparties and poor portfolio risk management or a lack of attention to changes in economic or other circumstances that can lead to a worsening in the credit standing of a bank's counterparties. Thus, as shown in the above table 6, 316 (87.7%) respondents agree on the bank impalements, 329 (91.5%) operating under a sound credit granting process, 329 (91.5%) for maintaining an appropriate credit administration, measurement and monitoring process, 306 (84.9%) ensuring adequate controls over credit risk and 285(79.2%) role of supervisors. Thus, the bank uses all principles of credit risk management principles stated on Basel (2000) for enhancement of its credit risk management system. According to Desalegn (2013) on his study on risk management in Ethiopian commercial banks find out the importance of establishing a formal risk management structure and developing written policy and procedure create effective risk management.

Wang (2013) identified eight major expectations for a sound credit risk management models, including comparable, integrated with other risk management models, based on existing and available data, practical-based, quantitative and qualitative combined, easy to use, adaptable to changes and simple and straight forward. Bajpai et.al. (2015) confirmed that on the study done on Assessing Credit Risk Management Practices and Performance of Commercial Banks, BPR Ltd has put in place a very strong credit risk management to ensure that loans are granted and managed effectively and efficiently. Singh A. (2013) discussed on Credit Risk Management Policy of banks that dictates the Credit Risk Strategy. These policies spell out the target markets, risk acceptance, avoidance levels, risk tolerance limits, prefer levels of diversification and concentration, credit risk measurement, monitoring and controlling mechanisms of banks.

4.5. Challenges in effective implementation of credit risk management policy

Table 7: internal factors and CRM policies of the bank

Internal Factors	Very Highly challenging		Highly challenging		Least challenging		Not challenging	
	Freq	% age	Fre q	% age	freq	% age	Fr e q	% age
High cost of information technology.	30	8.5	201	55.7	105	29.2	24	6.6
Lack of technical knowledge.	79	21.7	170	47.2	81	22.6	30	8.5
Lack of training within the organization about CRM.	65	17.9	190	52.8	78	21.7	27	7.5
Lack of employee's motivation to implement.	55	15.1	103	29.2	147	40.6	55	15.1
Difficult to understand the policy and procedure.	34	9.4	109	30.2	136	37.7	81	22.6
Access to material related to CRM	30	8.5	160	44.3	146	40.6	24	6.6
Difficulty in quantifying risk	105	29.2	187	51.9	68	18.9	-	-
Information gap	163	45.3	147	40.6	44	12.3	6	1.9

Source: survey and SPSS frequency output 2019

According to Singh (2013) as specified that for long term success of banking sector effective credit risk management practice is a vital issue in the current business environment and poor credit risk management policy will create serious source of crisis in the banking industry. Solomon (2013) also tries to identify the major challenge of NIB facing in implementation of the credit risk policies of the bank (NIB) are high cost of information technology, lack of knowledge within the organization and conflicting business priorities are the major challenging factors in application of credit risk policy of NIB. But the result in this paper shows on the table 8 are the major hindrance factor of listed variables on the implementation of credit policy of the bank are ranked as information gap 310 (85.9%), difficult in quantifying risk 292 (81.1%), Lack of training within the organization about CRM 255(70.7%), Lack of technical knowledge249 (68.9%), High cost of information technology 231 (64.2%), Access to material related to CRM 190 (54.8%).

Lack of employee's motivation to implement 158(44.3%) Challenging to understand the policy and procedure 143(39.6%). This shows that the bank is anticipated to file the gap by overcoming the challenges in order to insure effective employment of the policy at all level credit department of the bank by taking corrective action in order to improve the gap of employees. According to Atkilit (2015) discussed in chapter two effectiveness of credit risk management process is dependent on different variables such as proper application of best Risk management documents, Staff quality, Credit culture, devoted top management bodies, sufficient training program, proper organizational structure, ample level of internal Control and Performance of intermediation function.

Desalegn (2014) states the most difficulties that the banks are currently facing in managing risk are: lack of adequate, weak information management system, lack of competent and experienced staff, lack of exposure to the outside world and lack of awareness about the concept of risk management due to its newness in the institutions. Bajpai et.al. (2015) find out that the effective implementation of credit risk management affects profitability of the banks. The researchers further identified that the challenges of credit risk management implementation in the banks are the following: Insufficient skills of some of credit risk managers in managing risks, Continuous changes in market which destabilize market factors and thus bring default risk and Clients are not professional enough to carry on their business effectively in order to pay back credit given by commercial banks.

4.6. Factor of credit granting process

Table 8: the importance of factors considered in credit granting process in the bank.

5C's	Most Important		Important		Least Important		Not Important	
	Freq	% age	Freq	% age	freq	% age	Freq	% age
Character	255	70.8	89	24.5	6	1.9	10	2.8
Capital	159	44.3	195	53.8	6	1.9	-	-
Collateral	139	38.7	116	32.2	99	27.4	6	1.9
Capacity	261	72.6	68	18.9	10	2.8	21	5.7
Condition	163	45.3	154	42.5	40	11.3	3	0.9

Source: survey and SPSS frequency output 2019

As the above result on table 8, shows all 5C are extremely used in credit granting process of Commercial Bank of Ethiopia. Capacity to repay 251 (72.6%), characteristics of the business and owner 255(70.8%), conditions of borrower 163 (45.3%), capital of the borrower 159(44.3%) and collateral 139 (38.7%) used respectively according to respondents. However, the bank uses capacity or ability to pay and willingness to pay as major point the bank must also give due care to collateral in the credit granting process as risk mitigation mechanism because Collateral is an asset that serves as security against counter party risk. Anderson &Joeveer (2014). Mark K. (2010) Find out, the extent that capacity competition and conditions are mostly used as in screening and risk analysis before giving credit to customers. It was further found that extent that collateral security and character of borrower were used in screening and risk analyses before awarding credit to clients are moderate impact in financial institution.

4.7. Credit risk measurement techniques

Table 9: Extent Credit scoring technique used by the bank

Credit Score	Most Important		Important		Least Important		Not Important	
	Freq	% age	Freq	% age	Freq	% age	Freq	% age
Marketing score	170	47.2	143	39.6	24	6.6	24	6.6
Application score	126	34.9	136	37.7	81	22.6	17	4.7
Fraud score	122	34	139	38.7	75	20.8	24	6.6
Performance score	187	51.9	129	35.8	41	11.3	3	0.9
Behavioral score	197	54.7	119	33	30	8.5	14	3.8
Early warning score	159	44.3	132	36.8	48	13.2	21	5.7

Source: survey and SPSS frequency output 2019

As shown in the above table 9, all respondents uses all credit scoring stage in order to measure the risk level of the business to make decision in the credit approval process. Collection score, 197 (54.7%), Performance score187 (51.9%), Behavioral score197 (54.7%), Marketing score 170 (47.2%), Early warning score 159 (44.3%) Application score 126 (34.9%) and Fraud score with 122 (34%) respectively used most prominently by the respondent. This helps the bank to properly evaluate, analyze and decide on credit practice.

According to Beasens and Gestel (2009), Credit scoring is a credit risk management technique that analyzes the borrower's risk and used to assess and decide, who will get credit, how much credit they should get and what operational strategies will enhance the profitability of the debtors to the lenders. According to Zaidi&Samareen (2012) uses demographic factor (Gender, Client's locative situation, Education level, Proximity towards bank branches, Marital status, Age, No. of dependents, Loan tenure, Occupation, Working period with the last employer, Working period with the current employer, Loan period, Banking references at Bank, Monthly net income of the applicant, Credit History and Loan from other banks, as a means of measuring the credit worthiness of the individual borrower. As stated by researchers all factors have their own contribution on estimation or prediction of the creditworthiness of individual borrower when the researcher assess the credit score (CSMI) from this the most important factor that must be considered is the credit history of the applicants those borrowers who have defaulted previously can be predicted to default in the future. However, the researchers consider only applicant score they don't consider the other scoring factor. Abdou, El-Masry&Pointon (2007) analysis that those applications have been accepted, some of which later proved to be bad. Of course, some of the initially rejected applications may have led to recommendations of acceptance. Some of the predictor variables have not normally been used in published studies of credit scoring models, as example he mashed that corporate guarantee, branch, and loans from other banks.

4.8. Activity performed to reduce credit risk

Table 10: level of listed Activities used in order to reduce credit risk by the bank.

	Highly used		Used		Least Used		Not Used	
	Freq	% age	Freq	% age	Freq	% age	freq	% age
Develop MIS	214	59.4	122	34	24	6.6	-	-
Periodic credit calls	134	36.8	118	32.1	105	28.3	3	0.9
Periodic visits of borrowers	204	56.6	133	36.8	17	4.7	6	1.9
Credit risk rating	224	62.3	105	29.2	31	8.5	-	-
Annual review of accounts	153	42.5	163	45.3	41	11.3	3	0.9
Risk scoring	200	55.7	129	35.8	31	8.5	-	-

Source: survey and SPSS frequency output 2019

The table 11 above shows that, the level of activity used by the bank in order to reduce the risk level of credit product. This question is asked by researcher in order to investigate the level of activities performed by bank in order to minimize the credit risk level. According to the respondents view 224(62.3%) Credit risk rating, 214(59.4%) develop MIS, 204(56.6%) Periodic visits of borrowers, 200(55.7%) risk scoring, 329(91.5%) and are highly used mechanism above 50%. Annual review of account 153(42.5%) and Periodic credit calls, 134 (36.8%) are highly used but relatively below 50%. A study done on NIB bank shows development of MIS given list attention according to Solomon (2013). But this study justifies in Commercial Bank of Ethiopia there is no problem in development of MIS instead the bank gives a least attention to annual review of accounts, but it is very important factor because it is directly attached to know the customer principle reviewing, customer account, to deal with current status of the customer and it can also help us to follow up the borrowers, to predict credit sound and it also help us to know the current status of the customer practice on business.

Table 11: credit administration

Credit Administration	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Fre	% age	Fre	% age	Fre	% age	fre	% age	fre	% age
Well structured	132	36.8	170	47.2	34	9.4	10	2.8	14	3.8
Individual involvement	55	15.1	68	18.9	76	20.8	71	19.8	90	25.5

Source: survey and SPSS frequency output **2019**

As shown on the above table 11 from the total respondent's 302 (84%) agrees on the statement that the bank has well-structured documentation tracking system for credit and collateral files. In the credit process from appraisal to district level a well-structured document tracking system is needed in order to simplify the tracing process. So the bank has a proper document tracking techniques which is highly appreciated. The investigation with related to the process of credit administration is performed independently of individual involved in the business organization of credit 123(45.3%) of respondent disagree with the statement. This indicate that the credit administrator separately perform its activity from the individual involved business organization of credit.

Table 12: monitoring control of credit

Monitoring Control of Credit	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	fre	% age	Freq	% age	Fre	% age	freq	% age	freq	% age
Regular regulations	119	33	129	35.8	48	13.2	48	13.2	16	4.7
Collateral regulation	166	46.2	143	39.6	27	7.5	21	5.7	3	0.9
Quality control	149	41.5	156	43.4	48	13.2	7	1.9	-	-
Regulation after credit	149	41.5	123	34	44	12.3	41	11.3	3	0.9
Giving training	46	13.2	35	9.4	41	11.3	149	41.5	89	24.5

Source: survey and SPSS frequency output 2019

Credit monitoring and controlling process is the main point in the credit granting process because every loan must be monitored and controlled by the lender or the bank with proper monitoring and controlling mechanism. As shown on the above table 12, 248 (68.8 %) of respondent agrees with the statement that the bank regularly undertake stress testing on overall credit portfolio. The bank tests the stress of borrowers in order to make remedial action on the spot. From the total respondent

309(85.8%) of them agreed that collateral coverage is regularly assessed and related to borrowers' financial health. This process will create the mitigation mechanism simple and the bank keeps on doing its activity.

In the statement the banks periodically prepare credit quality report for warning sign loan losses in any portfolio 84.9% of respondent agree. This shows that the credit quality is checked properly and it create good environment for credit risk management. Large percentage 272(75.5%) of respondent also agreed on after granting credit on regular bases the bank keeps an eye on the business of client. This can help the bank to know the status of the business and repayment capacity and willingness of borrowers.

The survey brought out that 238(66%) of respondent disagree with the statement that Customers are often given sufficient training on loan usage. This shows that there is no training facility for borrower on how to use the credit disbursed which create ground for loan diversion to other sector instead of using for the proposed purpose.

Thus, this situation creates complexity in credit risk management process. Therefore, the above issues except customers are given sufficient training on loan usage the bank have best practice that other bank learns from it. According to Desalegn (2014) the risk management policy, procedure and limit are adequate to identify, measure, monitor and control risk of banks. It should have well established internal control system, which includes segregation of duties, clear management reporting lines adequate operating procedures and the finding on monitoring and controlling of credit. However, Solomon (2013) concluded that there is no proper functioning monitoring and controlling of credit in NIB bank.

4.9. Credit risk management tools and techniques

Table 13: tools and techniques of credit risk management

	Used		Not used	
	Freq.	Percent	Freq.	Percent
Collateral	350	97.2	10	2.8
Risk rating	289	80.2	71	19.8
Loan recovery /healing	316	87.7	44	12.3
portfolio management	306	84.9	54	15.1
Credit approval authority	282	78.3	78	21.7
Diversification	88	24.5	272	75.5

Source: survey and SPSS frequency output 2019

According to analysis shown on the above table 13, all tools are used in the bank as credit risk management techniques except diversification technique. Thus, collateral 350(97.2 %) in the first place and 289(80.2%), 316(87.7%), 306(84.9%), 282(78.3%), and 88(24.5%) risk rating, loan recovery, portfolio management, credit approval authority and diversification respectively according to their usage in the bank. Diversification is used at least level in credit risk management practice of the bank. In order to create active credit risk management techniques the bank is expected to use all component of credit risk management techniques.

CHAPTER FIVE

5. Summary of Findings, Conclusion and Recommendation

In this chapter, a conclusion of the research findings that has been discussed and analyzed in detail in the previous chapters is briefly presented. As well as, general conclusions that are highly related with the research objective of this paper are presented in addition to this, possible recommendations based on the findings are given.

5. 1 Summary of Findings

According to the finding that obtained from the analysis, the bank is charismatic in terms of financial and non-financial capacity and owned by the government it is expected to finance the government project and focus on developmental sector of the country. Based on this idea the bank have three priority sectors (i.e. Agriculture, Export and Manufacturing sector) of credit sector.

As the finding demonstrate that agricultural loan and import and export loan are highly exposed to risk. The study result also shows that the non-performing loan of the bank was increasing in the past seven consecutive years starting from 2015. Hence, if not the bank gives special attention to the study result also demonstrate that the bank has well organized credit policy and procedure. It that state duty and responsibility of all department with clearly specified favorable criteria expected from borrower for all types of credit product simplified by the bank.

In the bank procedure credit appraisal expert and customer relationship managers do their activity independently in order to insure check and balance or controlling through creating single point of contact with the customer and customer relationship manger. However, the result shows that the bank does not have independent risk management policy and procedure from credit policy and procedure instead it is included on credit policy and procedure. This could create a multidimensional credit risk management process.

The research demonstrates the bank uses different credit risk modification mechanism by measuring the credit risk level. The bank request collateral for all type of loan to mitigate its credit risk based on the credit risk rating or grading the risk level. If the risk grade of the loan isGrade 1and 2 minimum 75% collateral required by the bank for loan Grade 3, 85% collateral required and for loan Grade 4 and above 100% collateral is required for all type of loan except revolving per shipment export credit facility under clean bases.

Collateral is not essentially used as primary concern rather it is secondary way of risk mitigation tool. The bank also uses 5C (i.e. capacity, capital, character, condition and collateral) as major risk mitigation techniques in the credit granting process in order to identify by whom the loan is requested and its relationship within a bank, its behavior, types of business (legal or illegal), its capacity to repay, negative record on other loan repayment to minimize the non-performing loan of the bank.

The result also illustrate that the bank also adopted the five thorough principles of banks credit risk management forming an appropriate credit risk environment, operating under a thorough credit granting process, maintaining an appropriate credit administration, measurement and monitoring process, ensuring adequate controls over credit risk and the role of supervisors stated by guideline of the bank.

Generally, the bank has good practice in credit risk management from credit evaluation to the final stages of credit recovery that will be used as benchmark. However, there are major points recommended by the researcher to fill the gap shown in the finding and to reduce nonperforming loan of the bank.

5.2. Recommendations

Depend on the above findings and conclusion the researcher forwarded the following recommendation to the organization.

As showed in the above the bank does not have independent risk management policy and procedure. As the bank is becoming large and multifarious it needs separated risk management policy and procedure. Therefore, the bank could develop or implement independent risk management policy and procedure in order to build up proper and effective risk management system.

As indicated on procedure there is single point of contact for customer. This could expose the credit process to deceitful activities which finally create credit risk. Thus, the bank should contemplate this subject when the procedure reviewed subsequently the procedure is reviewed every three years.

The finding specified that there is no regular and unchanging risk reporting period in the bank which makes difficulty in approximating periodic status of the creditor. Thus, bank should establish effective and regular credit risk reporting schedule to all level of the employee working on credit.

As the result from outcome that the researcher analyzed even if ,the following two sectors are vital to the development of the country the agricultural, import and export loan have high risk which directly increase non-performing loan of the bank. Hence, the bank should create special credit risk mitigation mechanism that may need special controlling and helping for a better productivity and multi mechanism of risk controlling during their work.

Moreover, the bank uses centralized credit processing technique in Addis Ababa which means all type of loan except consumer loans are processed at center of head office level. Thus, the bank should segregate the duty and responsibility at branch level in order to create effective follow-up the processing of the loan become difficult and challenging to get timely for specific purpose and work.

5.3. Research Limitations and Areas of Future Research

Like all other research studies, this study has its own limitations which need to be studied in the future. The first limitation is the geographic sample limited to Addis Ababa areas. The result might be different outside the city of Addis Ababa where life living costs are lower than Addis Ababa which is the future works of other researchers. Secondly, sample branches were taken from selected branches only. Since the salary and benefits of the administrative staffs, are not professional staffs, are different from each levels the salary and benefits increase from one staff to the other. This might have affected the result of the research. Therefore, future works will need to take samples from the whole branches and head offices to show the effect.

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APPENDIX

Questioner

Dear respondents

The purpose of this self-administered Questionnaire is to gather data relating to the "Assessment on credit risk management practice of commercial bank of Ethiopia." For fulfillment of the requirements of the thesis for the Masters in business administration in general management. The research will be conducted to assess credit risk management practice of commercial bank of Ethiopia(CBE).I feel that your contribution which means information obtained from you is essential for success of this research. Thus, I appreciate your cooperation to give me your time for the success of this research thesis. I assure you that the information to be shared by you will be used only for academic purpose and kept confidential.

For further information and need my assistance while you fill the questionnaire please contact me:

E-mail: betiyjesus26@Yahoo.com

Tel: 0910040976

Thank you for your cooperation

Yours Sincerely

BetelhemTeka

Part I: Respondent profile

Please use this mark in the box "X" Where it applies

1) Job Title: ___________________________

2) Highest educational level obtained

High school complete Certificate Diploma

Bachelor Degree Master's Degree PhD

3) Area (field of specialization) or major field of study

Accounting Management CPA

Economists Others please specify _____________

4) Years of work experience

0-5 ye1ars 6-10 years 11-20 years More than 20 years

Part II. Research related question

Please tick the level of credit risk being faced by your bank on the following economic sector.

	No Risk	Low Risk	High Risk	Very high risk
Agricultural loan				
Manufacturing loan				
Import and export loan				
Domestic trade and service loan				
Building and construction loan				
Personal and ESL and mortgage loan				
Co finance of project loan				

Please rank which of the following best describe the major challenges faced in successful implementation of credit risk management policy within your organization?

1-very highly challenging, 2- highly challenging,

3-least challenging and 4-not challenging.

	1	2	3	4
High cost of information technology.				
Lack of technical knowledge.				
Lack of training within the organization about CRM.				
Lack of employee's motivation to implement.				
Difficult to understand the policy and procedure.				
Access to material related to CRM				
Difficulty in quantifying risk				
Information gap				

Tools of credit risk management

Please rank the importance of the following factors in your credit granting process.

1-most important, 2-important, 3-less important, and 4- not important

	1	2	3	4
Character: measures the borrower's character and integrity				
Capital: measures the difference between the borrower's assets				
Collateral: measures the collateral provided in case payment problems occur				
Capacity: measures the borrower's ability to pay				
Condition: measures the borrower's circumstances				

Which of the following credit risk scoring is important in your bank? Please tick according to their importance.

1-most important, 2-important,

3-less important, 4- not important

	1	2	3	4
Marketing score				
Application score				
Fraud score				
Performance score				
Behavioral score				
Early warning score				
Collection score				
Profit score				

Does your bank perform the following technique for credit risk management? Please tick

	Highly Used	Used	Least Used	Not used
Develop management information system				
Periodic credit calls				
Periodic visits of borrowers				
Credit risk rating				
Annual review of accounts				
Risk scoring				

Part III: Open ended questions

1. Please, List if any challenges you face in credit risk management that may not mentioned?
………
2. Please, list if there are other major kinds of method or process used by you to manage the Credit risk of bank?
……..

Part IV : Interview questions

1 Do credit management policies & objectives of your bank reviewed periodically to take in to account internal and external circumstances if yes, what were those circumstances under which the policies and objectives were reviewed?

2 What are the tools you used by the bank to measure the credit risk?

3 Do you calculate probability of default of customers?

4 Do you calculate recovery rate of a loan? If yes, when do you calculate this (Hint: at the time loan is pass, special mention, or at all time)?

5 In credit risk management do you use various methods to mitigate risks

6 Does your Bank has procedures/polices in regard to credit exposure limits, which is set for, Single Borrowers , Groups of connected counter parties For particular industries or economic sectors Geographic regions Specific loan type?

7 Are there written credit management policies & objectives that establish Guidelines for categorizing loan Geographical limits for loans Authority & responsibility of committees & individual lending officers?

8 Are there challenges of credit in processing, measuring and controlling?